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A

TREATISE

ON

FORMING, IMPROVING, AND MANAGING

COUNTRY RESIDENCES.

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TREATISE

ON

FORMING, IMPROVING, AND MANAGING

COUNTRY RESIDENCES;

AND ON THE

CHOICE OF SITUATIONS APPROPRIATE TO EVERY CLASS OF PURCHASERS.

IN ALL WHICH THE OBJECT IN VIEW IS TO UNITE IN A BETTER MANNER THAN HAS HITHERTO BEEN DONE,

A TASTE FOUNDED IN NATURE WITH ECONOMY AND UTILITY,

IN CONSTRUCTING OR IMPROVING

MANSIONS, AND OTHER RURAL BUILDINGS,

SO AS TO COMBINE ARCHITECTURAL FITNESS WITH PICTURESQUE EFFECT;

AND IN

FORMING GARDENS, ORCHARDS, FARMS, PARKS, PLEASURE-GROUNDS, SHRUBBERIES, ALL KINDS OF USEFUL OR DECORATIVE PLANTATIONS, AND EVERY OBJECT OF CONVENIENCE OR BEAUTY PECULIAR TO COUNTRY SEATS;

ACCORDING TO THE EXTENT, CHARACTER, OR STYLE OF SITUATIONS,

AND THE RANK, FORTUNE, AND EXPENDITURE OF PROPRIETORS;

FROM THE COTTAGE TO THE PALACE.

WITH

AN APPENDIX,

CONTAINING AN ENQUIRY INTO THE UTILITY AND MERITS OF MR. REPTON'S MODE OF SHEWING EFFECTS BY *SLIDES* AND SKETCHES, AND STRICTURES ON HIS OPINIONS AND PRACTICE IN LANDSCAPE GARDENING.

ILLUSTRATED BY DESCRIPTIONS OF SCENERY AND BUILDINGS,

BY REFERENCES TO COUNTRY SEATS, AND PASSAGES OF COUNTRY IN MOST PARTS OF GREAT BRITAIN,

AND BY THIRTY-TWO ENGRAVINGS.

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BOOK I.

PART VII.

PICTURESQUE IMPROVEMENT.

INTRODUCTION.

This elementary branch of the art of forming a residence has commonly been confounded with the former, and treated of under the general term Ornamental or Landscape Gardening: a term which, upon a very slight reflection, will appear incorrect and void of meaning, however natural or easy it may have appeared to apply it in the first instance. But the operations of those who lay out grounds are commonly more connected with planting and agriculture than gardening; and therefore, though Landscape Husbandry would seem an awkward appellation, it would be much better than Landscape Gardening. Still, however, there are improvements made on scenery which do not belong to husbandry; such as the formation of picturesque pieces of water, or the introduction of buildings; and therefore

this term would be too limited also. The nature of these improvements, made upon the scenery may assist us: they are not done solely with a view to render it more useful; nor can we with propriety say more ornamental, because this quality depends chiefly on fashion, and what is ornamental in one age is often the reverse in another. The term PICTURESQUE, however, will fully express the leading principles of the whole operations alluded to. This epithet, in the common language of mankind, seems to have two significations: by the one, it denotes a particular character, or kind of beauty, distinguished by roughness, abruptness, and irregularity, either in form, colour, sound, or touch, and may be produced in every polite art; by the other, it is applied chiefly to visible objects, and is used to signify that they are capable of producing a good effect when painted. In this last sense of the word I propose to apply it, and thenceforth to use the term PICTURESQUE IMPROVEMENT in place of LANDSCAPE GARDENING. This partial innovation is not at variance either with the common sense of mankind, or the general sentiments of judicious writers upon this subject, who have bestowed various designations upon it, but have never fully approved or made use of the term landscape gardener*.

* See the reviews of publications on this subject; also Mr. Knight's Inquiry into the Principles of Taste; the review of that work in the Edinburgh Review for 1806; and several other works. See also, as proof of another kind, Mr. Repton's writings on landscape gardening.

As picturesque improvement has been so much involved in planting and ornamental gardening, there is some confusion in its history. But it may suffice here to say, that it is of British invention; that the first suggestions were probably derived from Sir William Chambers's Oriental Gardening, and first exemplified by Mr. Kent, at Esher; but that very little of the picturesque appeared in any place, or publication, before the proprietors of Foxley and Downton improved their residences, and produced their writings. By public professors nothing has yet been done according to the principles of these gentlemen*; but on the contrary, as might naturally be expected, from the selfishness of mankind, they have been every where decried and opposed by that class of men. Hence nothing can be expected in the way of an historical introduction.

In proceeding to treat of this art, the following subjects will be taken into consideration: 1. The leading principles of the art. 2. The materials of real landscape. 3. The union of these materials in forming a picturesque composition. And 4. The subjects to which picturesque improvement is applied.

* Unless I may except my own humble efforts, made with no inconsiderable opposition from the general opinion, as well as the whole class of RURAL DESIGNERS; and consequently made from principle and conviction of their intrinsic excellence.

CHAPTER I.

OF THE PRINCIPLES OF PICTURESQUE IMPROVEMENT.

In picturesque improvement, the first objects of attention are the leading PRINCIPLES; which, as the name imports, must obviously be those of composition in landscape painting; the universal guide in which is, *unity of design and character with regard to the whole*, and *grouping, or connexion, in respect to the parts*. Unity of expression or character is the essential and fundamental principle of all the polite arts, and pervades every striking or exquisite composition, whether in landscape, poetry, or music. It derives its importance from the nature of the human mind, which never can view or conceive clearly above one object or impression at a time; and hence whatever does not assist the prevailing idea must serve to weaken it, either by rendering it uninteresting, or by disturbing the attention altogether. It is produced by the particular conformation, relation, and allusion of all the parts to the whole; which whole, in the characters of scenery or art, as in those of human life, may either be pleasing or disagreeable, amiable or disgusting. Still in each the proper component parts are necessary to complete the expression: the faults of some men are as necessary to render

them interesting, as the prevailing virtues of others: take away these attractions, and though they may still be good, or useful members of society, they will, to use the words of one deeply versed in human character, be "men of no mark or likelihood." Whenever we find, either in scenery or in the human species, all the qualities of mind, or all the parts in the composition, making equal claims to our regard, we may safely apply this language; and if we attentively observe what takes place in our own minds, we shall find that either men, portraits, or compositions of this kind, are soon forgotten or neglected. Where character is wanting, and even where it does exist, there are frequently occasional or accidental peculiarities, which often deceive the unpractised both in life and art. Those peculiarities can only be distinguished by experience, both with the particular individual, and with others of the same kind. For characters are so various, and often so slightly marked, that the unpractised and unskilful are ever liable to err; either by perceiving marks which are only accidental, or by passing over such as have genuine indications of character, but faintly impressed, or of a kind not generally known, perceived, or relished.

Characters, in picturesque improvement, are either original or appropriate; and the operations of art are with a view either of heightening or destroying them. Original characters are

such as are indicated by nature, and may be either beautiful, grand, picturesque, romantic, wild, or solitary, &c. the *expressions*, of either of which may be heightened by analogous improvements, by adding suitable appendages, or removing incongruities. Original characters may also be unsuitable or disagreeable; and then they are to be removed, and other characters appropriated in their room: and hence, in this case, the appellation of the epithet appropriate. Whether in heightening such as are natural or original, or in creating the appropriate in their room, the same principles are alike applicable and important. But be it observed, that in scenery, as in men, a *natural* character only, improved by education or art, will always be more striking, and often preferable to a character formed by education or art alone. A scene not composed of many parts, and tending to simplicity, will be improved in character with much more ease and effect by removing some of these, and increasing simplicity, than by adding others to produce richness. In picturesque improvement, the character appropriated should always be a natural one, or one justified by propriety, in opposition to such as have been called emblematical and imitative. Emblematical characters may succeed in poetry or painting, but can never succeed in rural scenery, and seldom in architecture. When at Stowe, and told that we are in the Elysian fields or the Grecian valley, the information produces no emotion, but some recollections of Italy or Virgil,

which would be pursued with much better effect in the closet over the Eneid, or a work on geography; for still as we pass through these Elysian fields, the attention is caught by new objects, in attending to which properly we either forget the allusion, or, absorbed in reverie, shut our eyes to the real beauties which surround us. When the whole is once seen, all the charms of illusion vanish, and the obvious want of utility renders such scenery nauseous and tiresome, and only worth preservation for its singularity and antiquity.

From unity of character in the whole, naturally arises the CONNEXION of the parts. Connexion is every where apparent in nature, from the splendour of the noon-day sun to the darkness of midnight; the severity of winter to the heat of the summer solstice. It is produced by the abrupt intermixture, or gradual union of different or opposite qualities. This is effected in ways as various as the constituent properties of matter, but upon principles as constantly the same as the effect to be produced. The rule is simple, but of unlimited and universal application; it is, to bring together such qualities or properties as are different, but not opposite; as form contrasts, but not opposites. Grouping is merely a term for connexion, when applied to landscape painting; and to illustrate this I may observe, that with regard to trees, a painter or improver connects or groups, trees differing only in magnitude—

in disposition—in figure—or in all of these; and these again he connects with buildings, cattle, or rocks. All that can be said on picturesque improvement, whether on the materials, or general subjects, or indeed on any polite art, is but the application of these two principles, *character* and *connexion*, varied according to the nature of the expression, and the nature of the materials which are to produce it. Hence the importance of this branch of knowledge in every department of rural design. With it, the slightest operations will produce the most enchanting effects; but without it, the artist is sure to wander in darkness and confusion—to effect things only by immense labour and difficulty, and consequently much unnecessary expense. It is plain, however, that most of those who follow the profession of laying out grounds, have no conception of this kind of knowledge;—nor do they need it, according to their system: for as Mr. Price observes, Mr. Brown "has so fixed and determined the forms and lines of clumps, belts, and serpentine canals, and has been so steadily imitated by his followers, that had the improvers been incorporated, their common seal, with a clump, a belt, and a piece of made water, would have fully expressed the whole of their science, and have served for a model as well as a seal*."

* Price's Essays, vol. i. p. 264.

CHAPTER II.

OF THE MATERIALS OF REAL LANDSCAPE.

These may be divided into three kinds—the necessary, or permanent—the occasional, or appropriate—and the fleeting, or accidental.

SECT. I. OF THE NECESSARY OR PERMANENT MATERIALS.

These are *ground*, *rocks*, *stones*, *wood*, *lowgrowths plants* and *grasses*, *water*, and *buildings*.

Ground.—Though this material is generally less under the control of art than the others, because the necessary operations are commonly too expensive; yet it deserves to be remarked, that when ground is placed immediately under the eye, improvements are easily accomplished, and always produce a singular and striking effect—an effect *singular*, because upon a material which we seldom see altered—and *striking*, because on one which shews the full effect instantly after the labour is finished.

In offering a few hints upon the operations of art in improving the surface of ground, it may be considered in regard to *quality* of surface, *form* of surface, *character*, and *connexion* in the parts.

With respect to *quality* of surface, ground is either smooth lawn or pasture, rough heathy pasture, swamp, mossy or meadow pasture, or entirely naked: each of which have their peculiar uses in landscape, according to its character, though most of them generally require to be improved, either in imitation of dry lawn or pasture, or meadow pasture: the method of effecting these improvements belongs to agriculture.—*Form* of surface is various. In regard to the parts, it is either *concave*, *convex*, *a level*, *a hanging level*, *abrupt*, or *broken*. The concave is the most agreeable form; the level, or hanging level, the grandest; and the abrupt and broken the most picturesque. With respect to the general surface of ground, it is either *undulated*, composed chiefly of concave and convex forms; *simple*, composed chiefly of straight or gently varied lines; or *irregular*, composed of all these forms. These different appearances of the general surface form what is denominated the *character* of ground; and in the operations of art, whether in strengthening the effect of particular parts, or increasing the expression of the whole, this must ever be kept in view. Thus undulated surfaces may be rendered more characteristic by deepening the hollows, increasing the swells, and softening off

rigid brows, or harsh angular abruptness. The simplicity of plain or simple surfaces may be increased by removing trifling parts, and promoting their tendency either to grandeur or beauty. Thus a plain is improved in grandeur by the removal of those lumps and excrescences which frequently may be seen on their surface; and a hill, covered equally with stones, furze, or tubercles of earth, will, by having some places entirely freed from these appendages, be rendered less intricate and featureless, and consequently more simple and beautiful, or grand. Irregular or picturesque surfaces are easily improved, either by increasing the abruptnesses and broken ground already there, or by the addition of others in connexion and concord with the present. Broken or picturesque ground is frequently admissible, especially if the broken or naked places are abrupt, or nearly perpendicular; but where nakedness seems to overspread the surface, the effect is too barren and inhospitable to be pleasing in cultivated scenery*. In some species of heaths, and shores of rivers or the sea, naked surfaces are often characteristic, and therefore ought not to be replaced, unless the character is to be entirely changed. Changing the natural character of the surface with regard to

* In the foreground of Plate XXX., contrasted with that of Plate XXIX., the effect of broken ground will be readily perceived. There it is not only more interesting of itself, but is better suited with the rough wild style of scenery to which the walk there shewn leads.

form can seldom be effected, except on small spots under the eye, as on ground intended for a parterre, or in that immediately adjoining the mansion; but in respect to quality of *surface*, it may frequently be changed: thus heaths and rough commons are often made fertile fields. Sometimes the character both of the surface and form may be changed; as when a level surface of moss is cleared from a varied surface of soil, as in agricultural improvement sometimes happens with such grounds in Wales and Scotland.

Connexion is essentially requisite to the formation of character; and nothing in ground is so disagreeable as its interruption. The most beautiful mound formally placed upon a level or the most elegant sweep, amid abruptnesses and irregularities, will ever be discordant. In undulating and simple surfaces, the parts ought to co-operate with each other in producing every variation of form; and in picturesque surfaces, the union of abruptnesses and broken ground should neither be forced, regular, nor unmeaning. A level surface broken into holes, or covered with heaps, is totally different from à picturesque surface: even an irregular surface uniformly abrupt or broken is but another variation of the same deformity. In picturesque ground, the surface, must either be rising, falling, or irregular: in the rising surface, the breaks and abrupt ascents must succeed each other, or be interposed so as, standing below and

looking upwards, they may seem to favour the general tendency to rise; and standing above and looking down, they may appear in unison with the nature of the declivity. A hollow without an outlet, or a circular mound without a continuation of swell, are alike unnatural and disagreeable.

These remarks are chiefly intended for grounds which may be managed by the operations of husbandry; but the same general principles will apply to hills and mountains, which can only be improved by wood, or sometimes perhaps by buildings. Wood, indeed, is a material which will operate powerfully on every species of ground where it can be reared. It may render undulating surfaces more characteristic, by being planted on the eminences; may give expression and effect to tame formless hills, by judicious disposition upon their sides, so as to vary both their surface and sky outline, and may even render an uninteresting common intricate and varied. A few trees falling down a declivity or precipice increase the appearance of steepness; and a wood covering the base, and creeping up to various heights on the side of a hill, adds greatly to its apparent height and grandeur. A surface full of deformities, either hollows, pits, or unconnected excrescences, may by a judicious distribution of wood be rendered highly picturesque. Solitary hills formally placed upon a level surface, which on a small scale must be *connected* by adding earth to the angle

formed by the junction of its base with the general surface, may, by placing wood in the junction, be completely united with every thing around. Accident has produced this effect on one part of North Berwicklaw, a conical hill which rises abruptly from the surface of a level or gently varied country. Agreeably to my directions given in with the designs for forming the Residence of North Berwick, the greater part of the base of the hill, and the lower parts of its sides are to be planted for the same purpose. But the effect of wood in changing the appearance of ground, though striking upon a large scale, is no less important in smaller variations of surface. A few barrow loads of earth on a knoll, or a continuation of swell on each side of a walk or foreground, will make some difference, even though clothed only with pasture; but if planted with trees, they produce shade and character immediately; they may conceal deformities in the distance—serve as a frame or foreground to distant beauties which might pass unperceived—or they may give importance to the scene itself from other points of view.

Rocks.—Though in reality these can neither be created, increased, nor taken away, yet several operations may be effected with them apparently of the same nature, and consequently of very great importance in landscape. They may be *shewn, concealed*, or rendered more *characteristic*. Rocks may be shewn by removing earth, and forming breaks and abruptnesses

in the surface. This may be done in several ways; but those are to be preferred which shew a perpendicular surface, or upright front of rock. This is not only the grandest manner in which rocks can be seen, but it is also the most economical and consistent with good husbandry; no horizontal surface, whether of wood, or pasture, being destroyed. Many examples of this kind occur in different parts of the ground of Barnbarrow; that shewn in Plate XIV. is worthy of notice, especially when contrasted with Plate XIII., which is the house and scenery exactly as they appeared in 1804, before my operations commenced. In this plate the trees are delineated exactly as they were at that time; in the other, several trees which are now planted nearly of the size there shewn are introduced, and also several shrubs and bushes; in this plate also, the effect is given as if the whole had been executed three years. These particulars are candidly mentioned, that none may impute to the author the slightest degree of deception: for there are some situations where trees of this size could not be transplanted with safety: but the soil and shelter at that part of Barnbarrow are fully adequate to every purpose of this kind; and indeed, if care be taken, a few large trees may be moved near the house in almost any situation.

Rocks may also be shewn, by removing wood, either alone, or in connexion with ground. This practice would often have

an excellent effect on the sides of hills, mountains, steeps, and banks of rivers or lakes; and in this last case would frequently be assisted in connexion with the removal of water, which can frequently be effected with ease: as for example, when a lake has an outlet, or when the channel of a river has considerable declivity. In every case where rocks are to be shewn, it is preferable to shew perpendicular, projecting, or at least nearly upright surfaces—any other kind never occurs in nature, except under the surface of water or in barren deserts; for though they may have been left altogether naked at the deluge, or immediately after convulsions or earthquakes, yet the weather, time, and vegetation, continually operate upon the upper surface of mineral bodies until they are clothed with earth and vegetables. The rocks in Plate XXXI. are supposed to be shewn entirely by the removal of wood. Rocks may be *concealed* either partially or completely, and by either or all of the materials which may *shew* them. Partial concealment is best effected by wood; and if the form of the part or parts which appear, be in the grand style, and the concealment judiciously effected, the imagination, ever ready to magnify the extent or powers of indistinct objects, will conceive the rest to be much more noble than if they had been of forms capable of being advantageously disclosed. Partial concealment may sometimes be effected by earth or water, and even by buildings: in all, the general principles are the same.

Complete concealment is seldom desirable, except when the rocks are of the barren or disagreeable kind; such as a naked surface of rocks, or small naked *angular* fragments staring through ground of uniform or simple surface. In cases of the first kind, the rock should be covered with earth; and in the second, blown out with gunpowder, or eradicated by the spade and mattock. The first case occurred with me at Castlewig, and both cases occurred at Barnbarrow. The fragments scattered in front of Downton Castle are of the same class as the second kind; they appear quite unconnected with each other, and have no natural relation to the ground, which is nearly of a level surface with a meagre soil covered with bad grasses. They are therefore deformities which should be removed. All general observers, and even enthusiasts in scenery who had not previously been informed of their intentions, would instantly ask what they were put there for: and whenever this is the case, it is a sufficient condemnation. Nature, either real, or judiciously imitated, if she do not charm common observers, never excites enquiries of this kind*.

In rendering rocks more *characteristic*, the first requisite is to

* I have taken the liberty of giving my opinion freely in this case, because the acknowledged good taste of the proprietor, both in his writings and rural improvements in general, may have some influence on those who are more led by others than guided by their own judgments; and also because I have in so many parts of this volume taken occasion to shew my high approbation of "*The Landscape*."

attend to their characters: these may be either grand, terrific, fanciful, or romantic and picturesque. Grandeur consists commonly in the breadth of light and shade and height of the masses; and may be heightened by increasing these, either by removing small parts of the rock itself, or clearing away appendages which tend to conceal or injure the principal masses. Romantic or terrific rocks may sometimes be improved by concealment or disclosure, but seldom by increasing their character. Rocks of picturesque beauty may be frequently operated upon with success; either by giving more breadth, variety, or intricacy to the rock itself, or by covering it with vegetation, or planting trees before it, to effect variety or harmony; or bushes and creepers above it, to hang over and produce shade and intricacy. An excess of intricacy, however, is dangerous, and tends more than any other quality to make a rock trifling. *Crags* are frequently trifling on this account; many of the admired rocks at Plympton, from the intricacy of their broken surface, and the fragile nature of the stone, are little better than large coal *cinders*. The management of rocks is very little, if at all, understood. In many parts of England I have seen them *shewn*, but in such a way as that they appeared little better than upright masses of red earth. This may be observed at some seats in Cumberland and Shropshire; but without referring to these, which is always a painful task when the artist or designer is alive, I may just hint

that the same kind of errors may be seen at the town of Bridgenorth.

Stones.—These are intimately connected with rocks, and have been partly treated of above, under *concealment*. The grandest forms of stones are those which present most breadth and effect, which are generally such as are most cubical. Their uses are various and not unimportant. They are desirable in picturesque foregrounds, among wild scenery, near natural paths, and among rough thickets. In brooks and rills their use is most important. There, by contrast with water and vegetation, they give spirit and force, and by appearing above the surface of various heights and different shapes, by catching and reflecting lights, throwing shadows, and by changing their apparent disposition at every movement of the spectator, they produce a playfulness, intricacy, and cheerfulness, which in this kind of water no other appendage can communicate. Their absence both in *natural* rills, brooks, and ponds, produces a melancholy, solitary, and sombre appearance: this may be admirably exemplified in the river Almond; and the former can never be more strikingly shewn, than on the North Esk, and particularly at Roslin Castle, Hawthornden, and Polton*. Rivers may be highly useful without stones, as is the Thames, the Isis, or

* All near Edinburgh.

Avon, &c.; but their beauty, even in fertile level countries, is always less than it might be when these appendages are wanting.

Wood.—The formation and management of this material is so important, both in picturesque improvement and husbandry, that with a reference to both these sciences I have discussed it in the next PART. Here I may observe, that dead *trunks*, old *roots*, or decayed *branches* of trees have frequently an excellent effect in connexion with stones, either as appendages to water, or as the joint materials of a picturesque or wild fore-ground.

Plants and grasses and low or shrubby growths enter into the composition of every rural landscape. They are used chiefly for two purposes; either to clothe the surface of ground; or to enrich, vary, or give intricacy to fore-grounds, abruptnesses, broken ground, or picturesque parts of a scene.

1. *Such as are used for clothing the surface* are chiefly the grasses and succulent plants used in agriculture. Occasionally, in landscape, others may be introduced, to give character or variety. Thus in wild scenes the *juncus*, *palustris* and *effusus*, the *carexes*, *fragaria vesca*, *thymus montana*, *gallium montanum*, *bellis perrene*, and a great many other plants, may either be encouraged if already there, or introduced, to give wildness, and take

away from the idea of culture. The effect of wild strawberries, violets, and primroses, on the sides of some Welch hills, and the effect of the *alchemella alpina*, *thymus saxifraga oppositifolia*, and others upon many hills in the highlands of Scotland, are singularly fine, and cannot well be conceived by those who have always been accustomed to see the surface covered with a carpet of rye-grass, or *poa trivialis*. It may be necessary to observe, that variations of the general clothing of the surface can seldom be introduced, except where the wild, the romantic, or the picturesque prevails in all the other parts of the scene. Level meadows, lawns, or fertile open parks, can never be successfully varied in this way; as in those places such plants would be both useless and incongruous. In all romantic or hilly countries, however, there are banks, steeps, or rocky abruptnesses, where variations of this kind are frequently found in nature, and may often be heightened, or even sometimes introduced, by art. Many examples of the effect of this kind of improvement may be found on the high banks of dells or bottoms containing brooks or rivers. There are several fine instances on the Dove, near Matlock; and at Melville Castle, on the Esk, the *cerastium* and *stellaria*, under a wood, form varied and beautiful carpetings upon irregular declivities; at Mevisbank, the *ajuga* impurples the surface; and on the steep wooded banks which surround a secluded glen between Leith and Colington, the primrose and hyacinth in spring com-

municate a gaiety analogous to the season; and in the beginning of autumn the leaves of the large wood strawberry and beds of wild thyme redden the surface, and give a warmth and rich appearance to the scene, which, in connexion with several other more important circumstances, render it by far the most enchanting in the neighbourhood of Edinburgh. Though this little sequestered valley occupies more than two acres of surface, and though a considerable brook runs through it, yet no appendage of greatness can ever disturb its quiet. The surrounding rocks forbid the approach of every kind of carriage, and of almost every animal, except sheep, goats, and asses. These may sometimes be seen browsing in the wood, or cropping the green meadow in the centre: hares and game indeed are in abundance, and sport themselves secure from the huntsman, as do the trout in the river unalarmed by anglers. The groves, and hanging thickets on the surrounding banks resound with the notes of the thrush and the woodlark, varied at intervals by the note of the cushat dove; and close upon the ear the hum of the wild bee, in its flight from flower to flower, completes a harmony no less in unison with every thing around, than with the emotions ever felt in such scenes by minds susceptible of feeling the beauties of nature. Fortunately, this scene is little frequented because known to few. Even its proprietor who lives beside it, and has retained it for upwards of fifty years, told me, that as it did not bring in much rent he had only seen it once in his

life-time. I will not assume the merit of discovering this virgin scene; it was shewn me by a virtuous and amiable mother, who often used to retire thither to mourn the loss of a much-loved daughter, and who felt herself consoled by its effects.

2. *Plants, grasses, and low growths, which may be used to give intricacy to fore-grounds, broken ground, margins of water, or abruptnesses; or to give wildness to parks, thickets,* &c. are various. They may be divided into three classes, those for polished ground, those for water, and those for rough ground.—1. *Those proper for producing intricacy, for broken ground or margins of water in polished scenery where no cattle are admitted,* may often, and should generally be, exotic shrubs, flowers, and creepers, such as *rhododendron, rosa, arbutus phyleria, rheum solidago,* &c. of different species for the larger sorts; *vinca, cistus, andromeda, erica,* &c. (properly shrubs) for smaller sorts; while the *cherianthus, valeriana, iris, aster, orobus,* and many others, form every intermediate gradation in shape, magnitude, colour, and time of flowering, &c. and answer every soil, from the *antirhinum major* and wall-flower, which suit decaying ruins, to the *iris, pecud acorus,* or the *camarum palustre,* which grows in the softest marshes or watery meadows. 2. *Those which naturally grow in water,* are numerous, and suited to the character which the water assumes, its depth, quality of the soil, &c. Several species of the *pontamogetons,* water par-

snip, &c. suit a running stream and clear bottom: the *typha*, bull-rush, &c. deep still water, with a rocky bottom: the *hippuris*, *morsus rana*, *ziziana**, fresh water soldier, &c. suit shallow and still water; the water lily, *alisma*, &c. a medium between the shallow and deep. In nature, every collection of water, as well as earth, has its peculiar plants, from the *algæ* in the sea, to the *caltriche* on the surface of the least pools. Hence the propriety of imitating the beauties of nature in these respects as well as in others. No one can dispute the superiority of this practice to the present total neglect of it, at least none of my readers will, whose opinions are important in works of taste.—3. *Those proper for wild scenery, where cattle are admitted.* I may observe here, in the first place, that if goats abound in scenery, scarcely any plant will escape their ravages, as they devour even the *cicuta virosa;* but as deer, horses, asses, horned cattle, and sheep, are the common inhabitants of park scenery, a considerable number of plants may be fixed on, which they either never use, or eat only in cases of great distress for want of more agreeable food. Of those kinds which they never eat are, the beautiful tribe of the ferns as well as *arum*, *scandex odorata*, *digitalis*, briar, sloe-

* The effect of this *valuable* exotic in the lakes and stagnated waters at Braham Castle passes description for singularity and beauty. It should be very generally introduced in all lakes, as it may probably become as useful at some future period in this country as it is now in America.—See the Linnæan Society's Transactions, Vol. VII. p. 264.

thorn, genista, bramble, and several others. Of those kinds seldom eaten are, the *acanthus, valeriana doica, centauria cynapium, epilobium,* and *lythyrus,* (which form a most beautiful class of wild flowers) the *torgylium astrantia, ulex, spartium, vaccinium,* common *whin, genista anglica, salix lapponica, repens,* and *sericeum,* and a great variety of others. The plants of both those classes related above, independent of many more which are less generally known, or abound only in rare parts of natural scenery, would, if introduced into the picturesque grounds of a residence, have a most enchanting effect; whether on the margin of water, in water itself, in dells, vallies, or bottoms, or in park scenery. Even ferns, the creeping rose, brambles, briars, low spreading thorns, furze, heath, and *digitalis,* give an appearance of wildness and beauty to a park, which no disposition of trees upon a smooth surface can ever produce. Wherever a park is extensive, or where the ground is irregular and the character of a park is intended to be given, this wildness appears to me one of its greatest beauties. Tame parks, consisting of wood, lawn, and naked water, abound every where; but such as have a forest and *original park* appearance, are only found in those happy spots where nature is untouched, where time has triumphed over tasteless art, or where the rage of art for smoothness and unbroken verdure, is continually counteracted by a vigorous vegetation. Some such places actually exist, from these causes, at Dalkeith, Hamilton, and Dunkeld; and

some by the efforts of art and genuine taste, at Foxley, Downton, and Yoxal Lodge. These may give an idea of what is intended by the use of wild plants and roughnesses; and the charming forest of Needwood *, which, far superior to

> " ———— the flowery walks of art,
> " Which lull but not transport the heart,"

exhibits an example both of wildness and utility, which it would require all the hardened obstinacy or jaundiced taste of modern landscape gardeners to view without rapture; and which none, whose minds were capable of relishing any thing more than the *varied*, the *pretty*, or the merely useful, or who were not previously blinded by fashion, or shackled by ignorance, could ever think of degrading by a comparison with modern park scenery.

Water is allowed by all to be one of the loveliest materials of landscape. In regard to utility, its dispersion by means of oceans, rivers, brooks, rills, springs, and vapour, is as necessary to the existence of vegetable bodies, as the circulation of the blood is essential to animal life; and whether we look at the blooming country girl, the tawny gipsey, or the delicate hue of the amiable nymph of the drawing-room, still it is blood which

* Celebrated in a beautiful poem, entitled, " Needwood Forest," by Mr. Mundey; and also by Mr. Gisborne, in his " Walks in a Forest."

animates their frames, no less than beautifies their countenances. Without the existence of this element, no species of soil, or country, can be productive; deprived of its view, no road in Great Britain, nor in any other country, can give pleasure to the tasteful traveller; for still as it occurs in springy banks, purling rills, or winding brooks, it is interesting and beautiful: and while in the distance we perceive the sinuous course of the navigable river, the glassy surface of the lake, the green expanse of distant ocean lost in ethereal blue, the mind is exalted and ennobled, filled with astonishment, or wrapt in sublime contemplation. Turning from public paths to secluded scenes of romantic or picturesque beauty, the effects of water are no less varied and pleasing, whether it be the roar of the cataract amid huge cliffs and savage mountains of rocks, the foam and din of the lesser cascade, the melancholy of the standing pool shaded by impending boughs "stooping as if to drink," or the melody of the crystal brook, which,

"———— running along the snow-white pebble stones,
"Mourning doth murmur joys commixt with moans."

ADAMSON.

Much having been written upon this interesting material by Mr. Price and Mr. Knight, and their excellent writings being generally known and approved among men of taste, I

shall be the more concise in what I am here to offer. I must remark, however, that the works alluded to, though they have effected (except among landscape gardeners) a general revolution of opinion, have hitherto made no difference in practice; which is not surprizing when all tasteless professors are against their improvements, and when no examples* of artificial water rendered picturesque have yet been shewn to the public. On the contrary, some eminent practitioners, as Mr. Marshall and Mr. Repton, have written decidedly in opposition to Mr. Price's ideas on the subject. Mr. Repton in particular, an artist who modestly claims to himself the honour of "*guiding* the taste and improving the scenery of his country," I am sorry to find strenuously defends the practice in his publications by several lame apologies for *shaving*, and also by numerous drawings of naked and tame rivers executed from his designs. We may judge of his practice from the water at Donnington, Corsham, Thoresby, Wentworth, &c. which, whether in regard to *situation*, *general form*, or *accompaniments*, are equally formal with any of Mr. Brown's works. Not contented with forming artificial water contrary to every principle of good taste and nature, at Valleyfield, the barbarities committed upon a natural brook are almost incredible, and seem as if made by Mr. Repton on purpose to *appropriate* the

* With some exceptions at Foxley.

spirited censures of Mr. Knight*. It would be endless indeed to mention the numerous and diverse absurdities either committed upon natural brooks, or realized in artificial pieces of water, in every part of the country. No disinterested person of taste and discernment, who has viewed such scenes, can be insensible of the difference between natural and made pieces of water; and when we reflect that this material is capable of forming the most interesting and enlivening effects in every species of landscape, and yet in so many scenes is at present the most formal and disgusting—the consideration excites the deepest regret. He who can tamely submit to such depraved

* "Shaved to the brink, our brooks are taught to flow
Where no obtruding leaves or branches grow;
While clumps of shrubs bespot each winding vale,
Open alike to every gleam and gale;
Each secret haunt, and deep recess display'd,
And intricacy banished with its shade.

"Hence, hence! thou haggard fiend, however call'd,
Thin meagre genius of the bare and bald;
Thy spade and mattock here at length lay down,
And follow to the tomb thy favourite Brown:
Thy favourite Brown, whose innovating hand
First dealt thy curses o'er this fertile land;
First taught the walk in spiral forms to move,
And from their haunts the secret Dryads drove;
With clumps bespotted o'er the mountain's side,
And bade the stream 'twixt banks close-shaven glide;
Banish'd the thickets of high tow'ring wood,
Which hung, reflected, o'er the glassy flood."

"*The Landscape*," p. 25, sec. edit.

ideas, who can expend immense sums in deforming nature, and effecting what every enlightened general observer must despise, and from which he himself can never experience lasting pleasure—gives a greater proof of his patience than of his intellectual refinement, and may command attention by his display of wealth; but will never call forth admiration for his judgment in matters of taste, or excite sympathy for his sense of the real beauties of nature. If, however, there be any reader of total indifference—or who is still infected with

> ——————— that strange disease
> Which gives deformity the power to please;

to him I have nothing to say; he can neither feel nor enjoy nature, and arguments from her effects would be lost on him;—whatever is most general or fashionable will best suit his purpose, and therefore let him not think of adopting any innovations upon general practices.

The remarks which I purpose offering on the subject of water will be included under these heads:—1. The situation; 2. The general form or shape; 3. The margin and accompaniments; 4. Cascades and waterfalls; 5. The picturesque improvement of artificial pieces of water already existing; 6. The management of natural pieces of water, when they come within the province of picturesque improvement; and, 7. The expence

attending the formation or management of artificial pieces of water.

1. *The situation.*—In treating this subject, collections of water may be divided into two kinds: those intended to be seen in a general view, and in connection with the adjacent scenery; and those only to be seen when near. Of the former class are lakes, rivers, ponds, &c.; and of the latter springs, rills, rivulets, cascades, &c. There is scarcely any situation in which springs, rivulets, &c. may not be placed. We find rills, in nature, deep sunk in dells, as in cases where they run down the sides of hills, or pass through a sandy soil. Should they pass through a fertile or level meadow or vale, their course is commonly very irregular; and when they are found in hollows, it is nearly straight, &c. The situation of rivers, lakes, and ponds, is invariably in the lowest parts of the surface. It is, indeed, impossible that it could be otherwise. Water, whenever it occurs, is always a striking feature, and thus has always its peculiar situation: when that situation is changed, every other feature is perverted—truth, nature, and harmony are set at defiance, and the most glaring discord substituted in their room. Striking instances of this gross error occur at Donnington, Wentworth Castle, and Hawkstone*. An instance may also

* Mr. Repton, who seems never at a loss for argument, observes, that he has "frequently advised that pools so unnaturally placed should be retained," not only

be seen in Plate XVI. fig. 1., but which is at present altering, from my suggestions.

2. *The general shape.*—This depends upon the character to be created. Whatever be the magnitude of lakes or ponds, they should be of irregular shape, more or less wooded and never entirely naked; always disguised by prominences and masses; and as often as occasion serves further varied by islands similarly managed. The form and direction of a river must depend upon its size and the kind of country that it is to pass through. Large rivers in fertile plains are generally much less varied in direction than small ones; and both are much less so, than those which pursue their course through a hilly surface or rocky soil. Large rivers can never be imitated where there does not exist a very considerable stream; because without this sufficient motion can never be communicated; but the course of natural rivers may frequently be altered, improved, or divided; and in such cases these remarks will apply. A branch might be taken off from the river in front of Warwick Castle with immense advantage; so there might at Netherby, Scone, Fluers,

" in compliance with that general satisfaction which the eye derives from the glitter of water, however absurd its situation," but also from the consideration " that although water on a hill is generally deemed unnatural, yet all rivers derive their sources from hills, and the highest mountains are known to have lakes or pools of water near their summits." Those who can be convinced by this kind of reasoning well deserve the punishment of having such pieces of water in their grounds.

and many other places; and much might be done at Alnwick. If those who have had an opportunity of viewing the grounds in front of Fluers Castle will only recollect the effect of the two branches of the Tweed, and the junction of the other river immediately above Kelso Bridge, no hesitation will be made as to the grandeur of such improvements. The only doubts that can occur will be respecting their propriety and utility, which must depend entirely upon the will and taste of the proprietor:— Whether he be content to give up a considerable portion of useful surface, for grandeur of effect and the creation of magnificent scenery. In such instances as Scone and Netherby, the fears of some would be alarmed for the safety of the mansion in times of high floods; but in all cases where alterations of this kind were made, and especially where the water was brought so near to buildings, gardens, or other fixed objects, a floodgate can easily be made where the new branch joins the principal course of the river; and, as every person accustomed to live near rivers is aware of floods before they happen, these gates could easily be shut in proper time to exclude any extraordinary quantity from entering branches of this kind. This could be effectually accomplished if a cottage and cottager were placed near the floodgate. But even though the water were admitted in times of high floods, if proper precautions were taken to prevent it from attacking particular spots, it would only improve the picturesque beauty of the banks; and this is easily done by

placing piers or buttresses in proper situations. Sometimes the course of a river may be entirely changed, from a distant, to a near and more interesting situation*; and then there will be no loss of ground, nor any occasion for floodgates. Examples of imitations of rivers abound in almost every made place of any consequence, and to them applies every objection which I have mentioned or may afterwards advance. In form, direction, margin, and accompaniments, they are, without one single exception as far as I have seen, altogether unnatural, and undeserving particular criticism. With regard to situation, a few may be excepted, as those at Oatlands and Llanarth; the last of which is shewn in Plate XV. but in every other respect they are as absurd as any. The form and direction of this river in Plate XV. fig. 1., as well as the margin and accompaniments, are at present altering from my plans and directions; and the object of the alteration is, to give it the effect of fig. 2. It is partly a natural river; but has been much injured by art, as is evident from fig. 1.

3. *The margin and accompaniments.*—There are two arguments, which clearly shew that the margins of every piece of water, whatever may be its character, ought to be broken and diversified. The first is, that thereby intricacy, variety, and

* See EMBANKING, page 214.

The View at Stanwith, as it appeard in August 1805.

J. Loudon del *J. Storer sc.*

The effect intended to be produced by the alterations at present executing

To John Jones Esqr this plate is respectfully Inscribed
by his devoted Servant,
John Loudon.

Publish'd May 10, 1808, by Longman Hurst Rees & Orme, Paternoster Row.

harmony in form, colour, and disposition*, are produced, in place of monotony or discord: the second is, that this mode prevails in nature. Intricacy, variety, and harmony, are produced in the outline by making the small parts irregular; considerably so in some places, and less so in others, according to the kind of water—in the ground, by producing breaks close to and also at some distance from the water—by shewing the naked or various coloured earth and gravel interspersed among abruptnesses, smooth slopes, levels, and by every form and disposition of surface; it is farther heightened by the introduction of stones of different shapes, and placed in varied or intricate *disposition*—and also by roots, decaying trunks, or branches of trees. Another fruitful source of these beauties is plants, grasses, low growths, shrubs, and trees. Plants and grasses may be used both for clothing such parts of the surface as are smooth, for varying others, and assisting disposition. Shrubs

* When I mention any of these or the other terms used in the essay ON TASTE, I always suppose that the reader has attended to that essay, and consequently that he considers that these words are used *technically*, and with a determinate meaning, in opposition to the common vague manner of using all words significant of the beauty of objects. Superficial readers, and those who have not considered taste or its objects in that comprehensive and abstract view, will derive little advantage from that essay; but those who are conversant with the subject will probably view it as not the least important part of this volume; for nothing has occasioned so much confusion, or has so much retarded the progress of art, as the erroneous application of the terms there explained. Unless that essay be attended to, some parts of this work will appear obscure, and the full force of others will not be perceived.

and trees may be used for the last purposes upon a larger scale. Plants, grasses, and low growths give intricacy and shade to small breaks, and the interstices among stones, &c. Shrubs and trees give intricacy to large recesses, either of simple margin, or containing these lesser enrichments, which, shaded by trees, will be heightened in effect. All this we see accomplished in nature in such a beautiful manner as passes all description: it may be admired by persons of feeling alone, without much judgment, or knowledge of the principles by which it pleases or produces the effect mentioned; but this kind of knowledge and judgment is highly useful in directing what to copy from nature, and how to apply it to artificial pieces of water. Without it, men may argue either for copying the deformities or singularities of nature*, or for misapplying them when copied. There is a difference of character in the margin and accompaniments of a lake, river, and brook, though each is varied or harmonious. Each differs also according to the style of country or soil which they may pass through. Loch Catherine, Loch Duddingston, Grassmere, Wastwater, and the beautiful lake at Clonyards, are very different lakes;

* Thus Mr. Marshall argues for tame monotonous water, from the beautiful lake of Grassmere; and Mr. Repton would dissuade gentlemen from planting near water, because as the trees must be inclosed with a fence, that fence will be doubled by reflection. Such arguments may please the tasteless or superficial; but they will arouse very different emotions in the minds of men of feeling and judgment.

and Thames, Dove, Tay, and Tweed, are very different rivers. Breadth and stillness, the general expression of lakes, and progress and continuity, the general characteristic of rivers, belong to each of those mentioned; but there are particular differences in the banks, adjacent grounds, and accompaniments, which give an interesting variation of character to each.

To illustrate this, as well as the preceding sections, I shall explain Plates XV. and XVI. The subject of Plate XV. is a tame river, placed in the most uninteresting situation in which it could well be conceived; with few circumstances in the grounds that can be taken advantage of to improve it. Fig. 1. represents it in the state it was in, in September 1805, before I gave in the design for widening it, simplifying its direction, varying its margin, and adding trees; Figure 2. shews the effect intended to be produced. Owing to the smallness of the scale, and the nature of the alterations, which are chiefly upon the margin, the difference is perhaps less striking than could occur in any case; but this is purposely intended, in order to give a proper test to the improvements proposed. The subject of Plate XVI. is three pieces of water in three different levels, made to imitate two rivers. The one river is supposed to come from the left, and is represented in Fig. 1. by the two small ponds placed on different levels. The other river is the large sweep in the lowest part of the ground

in the same figure. Scarcely any thing can be more ridiculous than the first attempt; the other is less so, but still despicable with regard to taste or nature. Fig. 2. shews the ground plan of part of the large river—the dotted lines representing the alterations which I proposed and marked out upon the ground. Fig. 3. is intended to give some idea of the effect of these alterations, which will be, to give the lower river the character of a lake, and to plant with wood the ponds intended for the other river*. Those alterations were marked out on the grounds at Harewood Hall, and highly approved of: owing to some very extensive operations of a similar kind now carrying on by the proprietor, they cannot be put into practice at present; but there cannot be a doubt that this will soon be done.

There are other kinds of appendages which are occasionally placed near water:—these are buildings. No building can be a greater ornament to a river than a bridge, and few objects are so generally pleasing, because few more useful. This idea has been taken advantage of by improvers; but in general very injudiciously. Their bridges are always formal, and uncon-

* And probably retained by Mr. Repton (who was employed there) in conformity to his arguments respecting ponds on hills and mountains: see pages 385, 386, of this work, and page 44 of Mr. Repton's, where the difficulty of uniting these pieces of water is avowed, and some expedients proposed which shall be noticed in the Appendix.

Fig 1 Sketch shewing the forms & situation of three pieces of water at Harewood Hall

Fig 2 Ground Plan of part of the largest piece of water at Harewood shewing the extent of the proposed Alterations

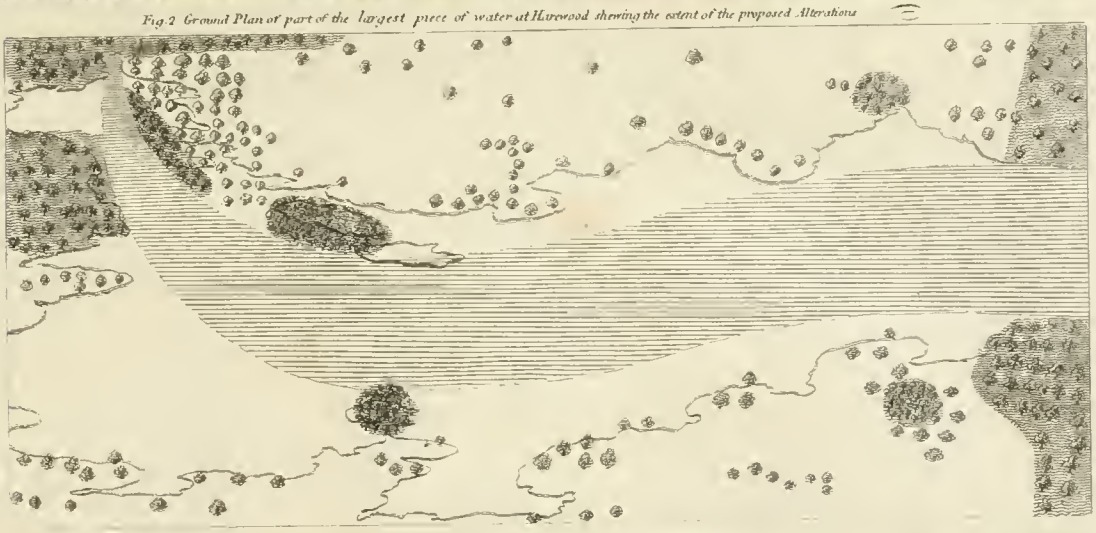


Fig 3 Sketch to shew the general character & effect attempted to be produced.

J. Loudon del.

J. Greig sculp.

To The Right Honble Lord Harewood this plate is respectfully Inscibed by his

devoted Servant,

J. Loudon.

nected with the scenery, either by their unsuitable magnitude, or by the loftiness of their arches straddling across a shallow stagnated river*. They want that beautiful simplicity, connexion, and picturesque effect, which may be seen in many highway bridges across streams or rivers, and which is produced there by *necessity* and time. Thus the arches are made low when the banks on each side are tame and level, because otherwise carts and carriages would have greater difficulty in ascending them. The architecture is simple, because in general the builders were not allowed to incur the expence of ornaments. The plants, ivy bushes, and trees which group with them, have sprung up in the course of time, but may be speedily imitated by art. The broken parapets, piers, or arches, supplied by open railing or a few pales, are the effects of time, or accident, and in some cases are worth imitating in the scenery of a residence. These circumstances might easily be copied in ornamental scenery, and if judiciously applied, will invariably succeed in producing a good effect.—Foot bridges of planks or rude boles and trunks of trees, suit with many scenes. They have frequently been attempted, but seldom with complete success, owing to the tastelessness of the contrivers.

* As at Wentworth Castle, Keddleston, Duddingston, Sion, and numerous other places.

Other buildings, designed for the purpose of *ornamenting* water, have seldom either picturesque effect or use; such as aquatic temples, statues, river gods, and similar absurdities or false decorations. Boat-houses, however, of simple construction, and in general all useful buildings, may frequently be introduced with good effect and propriety. The Persian wheel at Blair Drummond, the forcing wheel at Heythorpe, the corn-mill at Downton and Warwick, and a small building which may be perceived on the margin of the water in Plate VIII., are excellent proofs of this. The water-wheel and corn-mill at Warwick Castle is perhaps the grandest appendage to that noble building; whether in respect to the train of ideas which it awakens in the mind respecting its former, compared with its present use, &c. or its effect in connexion with the cascade, for which it forms an excellent apology. And though cascades of this kind be formal of themselves, yet the idea of their utility compensates in a considerable degree for the want of picturesque grandeur; and still the *roar* meets the ear through woods or distance with the same force as in those which are natural.

4. *Cascades and waterfalls.*—These epithets denote different characters:—those where the water falls over a ridge of rock in one or more *sheets*, and which are properly called waterfalls; and those where it is broken and interrupted by the irregularity of the ridge, and by other fragments of rock, and stones,

Fig. 1.

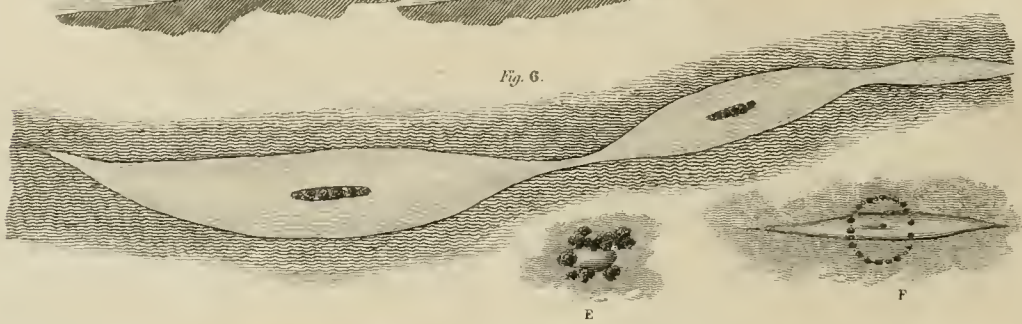
Fig. 2.

Fig. 4.

Fig. 3.

Fig. 5.

Fig. 6.



J. Loudon. del.

W. Wise sc.

Published May 29 1816 by Longman, Hurst, Rees & Orme, Paternoster Row

which are properly cascades. Both kinds may be imitated in improved scenery, though hitherto this has seldom been well done, owing either to the limited practical knowledge of persons of taste—or the limited or vitiated taste or want of judgment in those who have had the requisite practical knowledge.

1. *Waterfalls* may either be imitated directly, by being copied from nature; or indirectly, by the introduction of weirs for the use of water-mills, as mentioned toward the end of the last sub-section. In imitating nature, the *strength* and *durability* of the whole must be taken into consideration, no less than its beauty. *Strength* depends upon the general form of the aggregate of materials, which ought to be nearly that of Plate XVII. fig. 2. a a a. *Durability* depends chiefly upon the foundation; which ought in every case, upon a great scale, to be the natural rock; and upon a small scale, the most secure causeway, fixed by oak piles and cross planks;—it depends also upon the quality of the masonry, which ought to be executed with accuracy and care *.

* No kind of mortar should be used, but what is capable of resisting water. The best for this purpose is common lime-stone used immediately after being burned; which, as Dr. Anderson has shewn, will harden instantly, and remain so as well, or better, under water than in any other situation; but where unburnt lime cannot conveniently be had, or where, from deficiency of good workmen, or other circumstances, it could not be well burned, melted, and poured into the walls on the spot, —there are other compositions which, though much more expensive, may be used in its stead. See EMBANKING.

There is one variety of waterfall which may occasionally be seen in nature, and is well worthy of imitation; though, so far as I know, it has never yet been attempted. It is where a small rivulet or rill, at its junction with a river or brook, falls over a rock in one small sheet. At Matlock Bath, the noise of a small waterfall of this kind forms one of the finest circumstances of the scenery about that place;—borne upon the breeze, its grateful harmony meets the ear in almost every part of the adjacent scenery, in murmurs as varied as their passages through woods and open glades, along the surface of the *Dove*, under the echoing cliffs of the *Tor*, or ascending the heights of *Abram*. This remarkable effect, produced by such a small quantity of water, ought to be the greatest encouragement to such as possess brooks or rivulets, as few cases can occur where it may not be imitated; not indeed with such remarkable success, because the surrounding scenery may not be so varied, but still with such an effect as would amply compensate for the expence, which in every case could be but trifling. At Machany I propose to introduce one, which will have no inconsiderable murmur; and at Barnbarrow one will be seen from the portico (shewn in Plate XIV.) falling over a high rock, on the top of which stands an old ivied tower—its murmurs will resound through the woods, and even the apartments of the house, and give an air of enchantment to that fine old place, of which no drawing or description can give an adequate idea.

How a waterfall of this kind may be designed will appear from Plate XVII. fig. 1. Suppose A B a brook or river, and that C is the spot where a fall from one of the banks was desirable. All that is necessary is, to take the levels from that point up the river or brook to where the horizontal line intersects the present surface of the water. Suppose this to take place at D; all that is necessary is, to make a cut from D to C either open or covered, and either crooked and nearly parallel to the river, or in a straight line, as economy and the nature of the ground may direct.

Waterfalls for driving machinery are generally understood; and as no disguise in the masonry is necessary, but art is in general to appear, the principles of *strength* and *durability* already noticed are what chiefly demand attention. I must remark on this part of the subject, that it is to be regretted that so few who have rivers take advantage of it, and that so many make cascades equally formal and unnatural without any real use, and with little beauty either of character in themselves, or adaption and connexion with the scenery.

2. *Cascades.*—The general remarks respecting the formation of *waterfalls* will apply to cascades. When upon a small scale, and where a plenteous current of water subsists at all seasons of the year, the same form may be built, with the same care in

regard to foundation, solidity, and mortar; and then it may be disguised by rocks of different sizes, as represented by fig. 3., Plate XVII. Where the brook or river is of considerable magnitude, or where the stream is inconstant, then the masonry should be built after the manner of fig. 4., the spaces seen as retaining the rocks (which serve to disguise it) against the violence of the large brook or river, will in the case of an inconstant stream retain the water also: which, if the whole angle under the cascade were filled up with loose rocks, as in fig. 3. would disappear entirely. The ground plan of these three sections may either be directly across the river, which is least natural; diagonally, which is more so; or irregularly, as we most frequently observe takes place both in waterfalls and cascades. Fig. 5. shews four different plans of waterfalls and cascades. A is suited to such a cascade as fig. 4.; B for a violent natural waterfall; C for one less so, to be viewed chiefly from the sides of the river; D for one of the commonest kinds. Each of these must be totally disguised by rock, as shewn on these plans by lines representing the situations of different sized fragments. The same general principles in regard to form will apply to all kinds of *heads*, fishponds, &c.; only there the materials are commonly earth, clay, or gravel; which last should be well *puddled* with clay or stiff loam on the side next the water. In designing waterfalls and cascades, one principal consideration is, to adapt them properly to the sce-

nery. In some cases they are quite inadmissible, as in all rivers or brooks without stones or rocks in their beds or margins*; and in others where these are few, or where the ground on each side is level, they can never be made of great magnitude. An attention to nature, however, is sufficient to guide us in this, as in every thing else relating to the subject;—a subject which is so highly interesting and comprehensive, that to treat it with much amplification would far exceed the limits to which I am confined in this Work.

5. *The picturesque improvement of pieces of water already existing.*—This will certainly be attended to by all who at present have artificial waters, whether in imitation of rivers, lakes, ponds, or brooks, and who are in the habit of making picturesque improvements upon their grounds. Such proprietors may be assured, that no part can stand in greater need of alteration than made water; and should they go on with others (except planting, which however is commonly grown up in such places as I allude to) to the neglect of this, they will certainly not merit the approbation of men of taste; for taste always prefers

* The grounds of Thoresby, near Worksop, are of this description; but mark the ingenuity of Mr. Repton's argument: "The violence done to nature by the introduction of rock scenery at THORESBY is the more allowable, since it is within a *short distance* of Derbyshire, the most romantic county in England; while from the awful and picturesque scenery of Creswell Craigs such strata and ledges of stone, covered with their natural vegetation, may be transported thither, that no eye can discover the fraud"! This *short distance* is nearly thirty miles!!

excellence to quantity. If any proprietor hesitate to alter a piece of water which he has long been accustomed to see without being sensible perhaps of any great deformity*, if he look from his windows to a serpentine river winding among smooth naked turf, with only here and there a few clumps placed at some distance from its margin; if the water presents one uniform glare of light, clear blue, or dull green, and seldom varied by any shadows or reflections but those of clumps and sky, (which last Mr. Repton is willing to shew) let him, before he decides in favour of the tame river, imagine that in place of this a broad irregular lake forming bays and recesses, retiring among thick woods, and with its margin in some places abrupt, broken, and varied by stones, plants, and creepers, in one place smooth, sloping, and covered with grass, and in another clothed with shrubs, trees, and low-growths; then let him imagine that he sees these trees, woods, and the different coloured earths and stones of the banks, reflected upon the still surface of the water, which in some places was covered with dark shadows from the wood, and in others was bright and clear as the hea-

* Custom will reconcile mankind to every thing, and even make them fond of deformity; but then it is from secondary associations, which can only be felt by the person subject to them. An active desire of improvement in excellence is equally necessary both in the moral and material world, and consequently is essential to the propagation of taste, and to the progress of civilization in society. There is nothing in nature fixed and immutable; of course every thing must be in a progressive state either of amelioration or deterioration. It is the part of judgment to pursue the former in order to avoid the latter.

vens :—let him consider how interesting this would appear, even at a distance, and how long he might be employed in tracing with the eye the various recesses, dark places, and reflections —while still much remained indistinct or unseen, and therefore either employed the imagination in completing it according to its own ideas, or awakened curiosity to walk down and examine it minutely, by tracing (as far as could be done for thickets and briars) the various windings and intricate margin of the whole. Let him only contrast this with the effect of the piece of water already there, which he can *see* and *know* as completely by a single glance as if he viewed it an hour; and could examine the two extremities, (which are all that could be discovered by walking down to it,) as completely in a few minutes, as if he were to encompass it a whole day. If the contrast does not strike him, he certainly, as far as regards his own taste, is justified in preserving his water as it is; but if otherwise, he ought to commence improvement immediately: not only in gratification of his own sentiments, but also in justice to every attempt to promote and introduce good taste in a country where he is a proprietor, and among a people upon whom he is dependent for his rank and affluence. Different styles of improvement may be ornamental and admired while they are in fashion; but it is only such as this, which are picturesque (or natural) that can stand the test of time.

In altering artificial water, the first thing is to consider the character which ought to be adopted, and in the next place to execute that character in the best manner and with least expence. The first particular has been treated of under *situation*, *margin*, &c. and the last will be chiefly considered under the 7th Section, and that part of Book II. which relates to execution. In many cases, however, the alteration is so very simple, as to require little art either in design or practice. At Machany a beautiful natural brook was some years ago formed into one of the most disgusting kinds of serpentine ponds. The improvement which I advised there was just to take away part of the head, and the first winter's flood would do all the rest. A large lake at Barnbarrow, the continuation of which is shewn in front of the house (Plate XIV.), will be produced by little more than forming the head, which will completely drown the small serpentine rivulet that is shewn in the plate which represents the former appearance of that scene. Many like cases occur. Fig. 6. Plate XVII. shews a plan given in by a modern improver, for making another piece of water at Barnbarrow: it was, however, rejected by the good taste of the proprietor; instead of it, I propose little more than erecting a head, and varying the margin after the water has found its level. E represents the circular form of a small pond at Castlewig, varied by trees, &c. which was proposed to be altered and made in the shape of

F: but agreeably to my advice it is now to remain untouched; that is, having the appearance of E. These three figures in this plate are carefully reduced from the original plans which are in the possession of the respective proprietors.

6. *The management of natural pieces of water, where they come within the province of picturesque improvement*, consists in rendering them more characteristic, and by sometimes introducing *occasional effects*. The leading principles of accomplishing the first improvements are obvious. The second is derived from what takes place in nature: thus I have already mentioned a variety of *waterfall* which is sometimes seen: there are similar *cascades*, springs, and drooping banks or rocks*, on the margins of large brooks or rivers, which may all be imitated. In rills, and smaller streams, there are dank pools, ponds, and little lakes, which frequently occur in their course; these are highly worthy of imitation, for their intrinsic beauty, their contrast with the narrow rills, and their use in landscape. A great advantage of such pools, or little lakes, is, that they may be made and appear natural where no other variety of still water could be attempted. In nature we find them on the sides of declivities, where they are generally covered with wood, and seen only on a near view. In level places, or such surfaces as

* There is a very remarkable dropping rock at Knaresborough, from which excellent hints may be taken.

are not strikingly inclined, they are or may be opened in some places, for the purpose of being seen from distant parts of the grounds. This is done at Foxley in an admirable manner, and from the surrounding woods gives a brilliancy to scenery which would otherwise perhaps be rather dark and gloomy; wood and ground being almost the only materials visible there before Mr. Price began his improvements.

Islands are another species of occasional appearance, and are well deserving of imitation, especially in lakes and ponds. But even in large rivers or brooks they frequently have a good effect. In large rivers they are long and narrow, as at Bolton Abbey and Corby Castle, which are noble examples. In brooks they are often so large as to be altogether out of proportion to the stream, and may contain several poles of surface; sometimes they are very small, and only contain a bush, or a few trees, or a few stones and plants; both cases may be seen in almost every brook, and both deserve imitation. Islands in ponds should rather be numerous and close together, than large and distant, and placed rather near the shore than the middle. The apparent magnitude of a piece of water may be greatly heightened from the principal point of view, by placing most of the largest islands next the eye, as well as by the mode of planting them. With respect to planting islands, in general they should be wooded, but not wholly, and never in such

a way as to exclude the appearance of surface, broken ground, rocks, roots, and stones, which are more natural to islands than to shores, because it must always be supposed that it has been some of these materials which have either occasioned the accumulation of the island, or have prevented it from being washed away.

7. *The expense attending the formation of artificial water.*—Every one knows, that according to the present mode this is enormous, and sometimes has occasioned the ruin of an individual. By the mode proposed, it will in every case be much cheaper, and often remarkably so. This will appear if we consider the different operations of their formation according to both modes. These are, excavating the bed of the proposed water, forming the head, spreading the earth taken out, and managing the surrounding surface.

1. *Excavation and forming of the head.*—The chief reason why this is so expensive is, that a river is commonly imitated; which, owing to the natural slope of all grounds, requires not only larger heads, but a considerable number of them. By imitating chiefly lakes, one head is generally all that is requisite; and this often of a much smaller size than those of rivers. Hence a material difference of expense in this article alone.

2. *Spreading the earth and managing the surrounding surface.*—In modern landscape gardening, whatever be the natural character or tendency of the surrounding surface, it is reduced, by levelling, to smooth lawn or pasture, sloping gradually from the margin of the water. This occasions a prodigious expense; and what is worse, it is commonly uncertain, and only to be calculated after the whole is finished. The number of cubical yards to be removed in excavation may be calculated within a few pence of certainty; but the operations of levelling are intricate, tedious, and extensive; and hence it is commonly in this particular that the expense of made water exceeds calculation.

If any one plan ever had the advantage over another, certainly picturesque or natural pieces of water have the complete superiority over those alluded to with regard to expense. In them the natural character of the ground is preserved, or only improved, and consequently no expense of levelling is incurred; and the superfluous earth arising from the excavation is formed into irregular inequalities, or distributed along the banks in such a way as to increase their character and picturesqueness. Numerous striking instances of unnecessary expense being incurred, and little beauty produced, could be given from all parts of the island: that at Donnington might have been much more picturesque—presented a larger sur-

face of water—and have cost little more than one-half the expense.

Buildings are a class of materials on which several remarks have occasionally been made in the course of this work. With regard to visual effect, they serve to give force and spirit; and in respect of intellectual pleasure they communicate ideas of the cheerfulness or industry of the inhabitants of a country; or in ruins recal to mind ages that are past; they occasionally serve to characterize landscape, and often to heighten the expression indicated by nature. In all cultivated, verdant, and cheerful scenery, their occasional appearance is necessary either in the foreground or distance. In scenes of tranquillity and seclusion, romantic beauty, or natural grandeur, their abundance is highly disadvantageous, and their total absence is most commonly preferable. Wherever they are introduced, their design, execution, character, and number, must never deviate from propriety and use. The different kinds may be included under the necessary, the convenient, the appropriate, and the accidental. The *necessary*, or such as are requisite for the purposes of utility, when suitably dignified in a proper style of architecture, and placed in situations combining effect with use, should (in place of being concealed) always appear in the general view. They will never displease, and often prove sources of

character and beauty*. The *convenient* are such as are erected chiefly for pleasure, as covered seats, retreats, &c. As already observed †, these should be introduced with great caution, and should rather appear deficient, as supernumerary. In character they must correspond with the scenery in which they are introduced: a hut constructed of branches of trees, not affectedly, but simply, and covered with heath or thatch, forms a proper shelter in a woody dell, as at Dunglass; in one abounding with rocks, it may often be more convenient to take advantage of some natural projection by increasing its depth, &c. and placing seats under it, as at the mountain dingle at Cames Eskan: in more elegant and magnificent walks, pieces of classical or scientific architecture are equally proper, so long as the proper object and use is kept in view; but when this is deviated from, and such covered seats introduced as are to be seen at Dunkeld, Stow, Hagley, Envile, and most English residences, the chastity and natural beauty (so to speak) of the whole scenery is destroyed. Artificial covered seats, however, are not often necessary. In most seasons, both of the year and day, in which walks are frequented in our humid climate, the shade of a tree is much more agreeable; and a few seats or stools, placed in different spots under these, better preserve the pleasing character of nature, which in those scenes that come under picturesque im-

* See ARCHITECTURE, and Plates VII. VIII. XXX. and XXXI.

† See ORNAMENTAL GARDENING.

provement, with some exceptions, is much better than heightening it by art. Spirit and force, which it is allowed buildings give to scenery, can generally be communicated by walks, broken ground, stones, trunks of trees, rocks, and such materials. The *appropriate* may either be convenient or ornamental; but they are always peculiar to, or characteristic of certain scenes, or strong characters of themselves. Thus a bridge is applied only to water, a prospect tower to an eminence, and a mausoleum is an impressive object of itself, &c. This class forms some of the noblest buildings belonging to a residence; a bridge, where it is really useful, is always striking and beautiful, whether it be the romantic Swiss foot-path across dells or dingles, or the more stately arch of masonry over brooks or rivers. Mausoleums not obtruded on the view, as at Castle Howard, but placed so as to be seen only occasionally, may afford solemn instruction to all, and may inspire the noblest sentiments in the descendants of ancient and honourable families. Prospect towers have a grand and imposing effect when judiciously placed in a woody eminence, or on the top of a rocky mountain. Very seldom, however, are they built in a suitable style of architecture: they are either of the most vulgar and common-place forms, as at Blaize Castle, Shooter's Hill, &c. or gaudy and affectedly uncommon, as at Clytho, Shuckborough, and numberless other places. These towers should always be designed in a style analogous to their situation: where that is broad and ir-

regular, they should have something of that appearance; where high and narrow, or pointed, a single tower of considerable height is proper. In the designs, treatise, and models, given in by me for forming a residence at North Berwick, the hill of that name is intended to be included in the park: it is of a regular conical shape, of considerable height, and fertile to the top. I proposed to place an open circular Doric portico upon its summit, which it is presumed will have an excellent effect from all the surrounding country, and serve the chief purpose of such buildings in a very uncommon degree; that is, it will shew a most extensive prospect.

By *accidental* buildings, I mean chiefly ruins, which I suppose either to exist as such already, or to be produced from some building no longer necessary or proper in the situation. The formation of artificial ruins* I have never been able to reconcile with propriety and good taste: when real, they are a most beautiful, characteristic, and accommodating class of buildings, and are therefore highly valuable wherever they exist. They may often be improved by the addition of wood; either trees and shrubs, to unite and effect breadth and sim-

* If artificial ruins are admitted, they should always be placed in such a situation as to be inaccessible to the passing spectator; otherwise, on the discovery of the deception, disgust will succeed, and totally obliterate all his previous emotions of pleasure.

plicity; creepers, to add intricacy and variety; or by judicious breaks or openings* in the masonry, for the same purpose. In some cases they may even be improved by slight additions of masonry, in the same style, or by adding small towers or turrets, battlements, or similar parts. Both modes of improvement have come under my practice at North Berwick Abbey, and Machany. Buildings no longer necessary, as old mansions, cottages, offices of any kind, and even garden walls or gateways, may often form ruins which, if not always highly interesting in an intellectual or historical point of view, yet serve one of the grand purposes of buildings, by giving spirit and effect to verdant scenery. Such objects should never, as is commonly the case, be removed without mature thought; for to the picturesque improver no artificial circumstance can be so fortunate, or furnish so many hints for interesting compositions.

At Luss there are the remains of an old garden which for many years has been in a state of general neglect; the surrounding walls are of considerable height, and formed of stone masonry; they are partly covered with ivy and trees, which have sprung

* An abortive attempt of this kind has been made at Collington House, from the suggestions of a drawing-master in Edinburgh; but from endeavouring to effect too much, the subject operated upon is rendered worse than before it was altered.

up from seeds deposited in their crevices, and partly rent or broken down by the increase of the roots of those trees; one of which, upon an alcove in the corner of the garden, has arrived to considerable height, and cleft the wall to the foundation. The compartments of the garden are subdivided by grass walks, some of which are still kept mown; but the borders and parterres can only be distinguished by the wild luxuriance of the shrubs, flowers, and fruit-trees, by the flights of steps which connect different terraces and hanging slopes, or the ruins of urns, dials, or artificial ponds. When viewing that place, I could not help admiring this old garden as one of the most interesting things about it; but my guide, apparently wondering at my delay in such a scene, apologized for its appearance by observing, that as soon as the new garden was finished, this one would be removed, and the whole thrown open and joined to the lawn!! At Ingleston, the same thing has lately been done; not only with the garden, but also with an old mansion and tower!! Had part of the garden walls and these old ruins been allowed to remain, and been properly connected and varied, the place would have been rendered highly interesting at a small expence. But every thing has been cleared and levelled—new plantations formed, to clump up groups and open groves, or counteract the natural character of the ground; and huge masses of masonry are erecting with rapidity; but, alas! the characteristic beauties of the place are destroyed—

beauties which cannot be recreated in a life-time, and which cannot be equalled by any power of art;—while in their room nothing appears but a tasteless display of wealth. Several thousand pounds have been expended in really deforming this place. Indeed scarcely an instance occurs of a new place being formed, or improved, but the same thing is done, in a greater or less degree.

A variety of buildings which may be classed along with ruins are those temples, covered seats, castles, &c. which have been purposely erected as ornamental to a residence. After they have been raised at considerable expense, it will often be cruel to destroy them entirely; they may therefore either be concealed by trees and creepers, and rendered less imposing; or by those who have courage and decided taste, the structure itself may be broken and diversified by mechanical force, and further varied by vegetation as before. By these means, jointly used, most ridiculous ornamental buildings, as towers, temples, &c. may be varied and rendered agreeable, for *age*, *intricacy*, and *picturesque* beauty, which may thus be produced or increased, and are always harmonious and interesting.

SECT. 2. OF THE OCCASIONAL OR APPROPRIATE MATERIALS OF LANDSCAPE.

THESE are roads, walks, and fences of different kinds.

ROADS AND WALKS have partly one of the effects of buildings; that is, of giving spirit and force to scenes of verdure and cultivation. Conveniency and propriety dictate their direction, and utility their width. Their margin, and the surface and colour of the materials, are what chiefly concern picturesque effect. Where the scene is avowedly artificial, the margins must be parallel to each other, and accurately defined; as in that part of the approach road which comes within the parapet or fence that incloses the mansion, or in those walks which are within the bounds of either the ornamental or useful garden. Where the road or walk is not in these scenes, but is either in picturesque or natural pleasure-ground, pasture fields, park, forest, or dingle, the edges must be irregular, and more or less rough or smooth, blending or ragged, as we see takes place in paths through similar scenery in wild nature. Where trees and bushes are loosely scattered over a lawn, the sweeps or turns of the walk should be comparatively abrupt, and its

breadth may vary in a considerable degree. A group of shrubs, or a single tree, may sometimes divide it, and there the breadth must be separated, and, each narrow course taking nearly the same direction, in a short time they may meet in one track, and assume the former width. Some beautiful examples of this kind of walk we find in woody banks or commons. In thickets or woods, whether of natural trees and undergrowth, or of exotics, as in the full grown shrubbery, the edge of the path should often be totally annihilated on both sides, and bounded only by the irregularity of the lowest growths. In walks, the excellent effects and superior *economy* resulting from these principles is excellently illustrated at Foxley and Dunglass; and in roads it may be seen in those parts of much frequented approaches which it is not judged necessary to subject to the paring-irons and formal trimming of gardeners.

The formal, stiff, and harsh edges of made roads and walks, is one of the most striking deformities in picturesque scenery. Though every other part of the scene should be perfect, or though they lead through a natural copse or an unfrequented dell, their *edginess* and formal manner powerfully distract the eye of the spectator, and frustrate the genuine effect of the scenery. Indeed, the wilder or more natural the ground which the walk passes through, the more anxious is the gardener to shew his labours, either by the frequent addition of fresh gravel,

when mosses, weatherstains, or any such picturesque appendages begin to appear; or with the scythe and paring-irons divesting their edges of the intricacy which vegetation, during a slight relief from his operations, has a continual tendency to produce.

Fences are sometimes useful in picturesque scenery, on the same principles as roads; that is, to give spirit and variety: as in walls or park pales varied by recesses and bushes, or open rustic paling partially concealed by trees, or inequalities of ground. But they are chiefly requisite for harmonizing or uniting landscape; and in this case they are concealed as much as possible. Of unseen fences there are various kinds, from the slender wire painted of what is called invisible green, which serves to exclude sheep, to the formidable sunk fence, which when six or eight feet deep, and twelve or fifteen wide, is a barrier to every species of animals kept in this country. The slender wire fence may be increased in strength and height so as to exclude deer; in which case it may frequently be applicable to level lawns, as at Trentham. An open iron rail may sometimes be used for the same purpose in like cases, as at Donnington. An excavation, with a rail at the bottom or on one side, may be used in varied or irregular ground, or when at some distance from the mansion, as at Esher and numberless places; and the well-known sunk fence, or ha! ha! may be

applied in many other instances. Almost every thing depends upon their application to the variations of ground, and their concealment by trees and bushes: when this is judiciously done, either of these kinds may be made sufficiently invisible; though it must be observed, that this is very seldom the case. The sunk fence, which abounds most in ornamental scenery, is only unseen when approached at nearly right angles from one side. If there are any curvatures in its direction, or inequalities in the surface of the ground, the upright wall always meets the eye, and occasions a disagreeable surprize. What is a great additional defect of this fence, and indeed of all those which have been mentioned, is their confinement of the human species. Grounds where they occur always appear on a contracted scale, and a disagreeable restraint is necessarily imposed on the spectator wherever he goes. Should he leave the walk and saunter over the lawn, or take a direct road to any object in the park, he is either suddenly intercepted by this invincible barrier, or perpetually pained by the idea of meeting with it; and wherever it obtrudes itself, he must return and walk in the gravelled path, where, if he has any curiosity at all, he must, to use a cant phrase, be "*ill at ease.*" From experiencing this, it naturally occurred to me* that an iron rail, such as is used for

* I should not again repeat that this fence, and also the next described, were solely invented by me, were it not that some persons have suspected the contrary.

inclosing sunk areas, or indeed any common wooden rail, as fig. 1., Plate XVIII., if placed over an excavation two or three feet deep, or even less, would at once be a barrier against all sorts of cattle, freely admit the human species to pass over it, and at the same time be more completely unseen than any fence hitherto used. It was first erected at Kingswood Lodge in 1803-4, to separate a sheep pasture from that used for cattle and horses; it completely answered my expectations, and continues to effect all the purposes mentioned above. It is erected on a smooth declivity, in the room partly of the sunk fence and hedge, the former of which appears in Plate XXIV.; and in Plate XXV. a slight shade is made, only to shew the direction of this fence; for at such a distance it is quite invisible. It may be proper to remark here, that two or three trees are supposed to be removed from the valley between the foreground and the fence, in order to render its situation more conspicuous, the chief design of this plate being to shew the effect of this fence.

The whole process of constructing the INVISIBLE fence may be learned from Plate XVIII.—Fig. 1. is the form of the rail when made of wood, which ought to be that of larch or oak: the former, if young and with the bark on, would be much the cheapest and most durable. The ends of the rails are made round or blunt, in place of being pointed, lest cattle should

Fig. 1

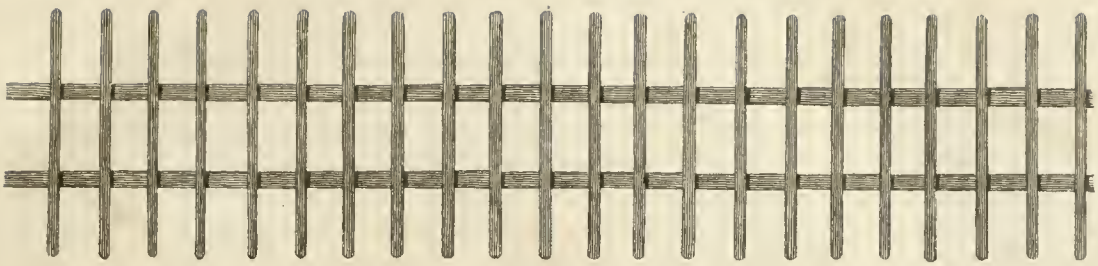


Fig. 2

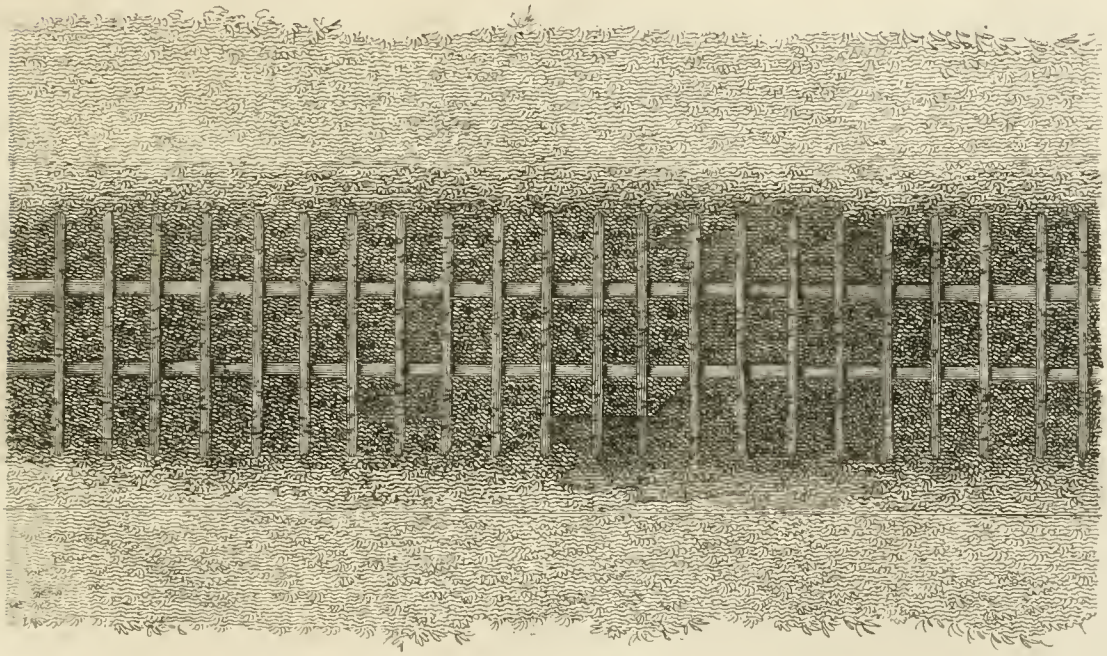


Fig. 3

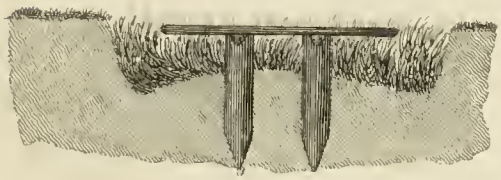


Fig. 4

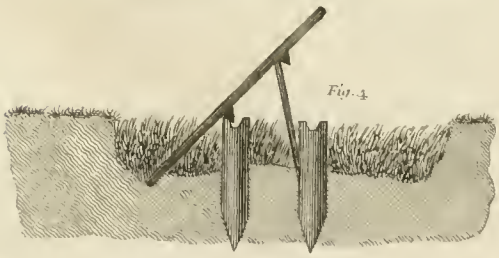


Fig. 5

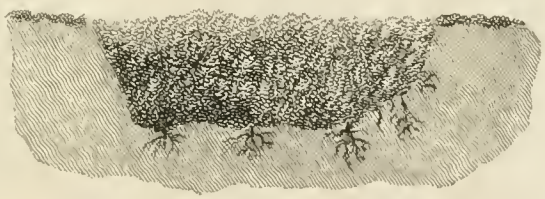


Fig. 6

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by any means stumble into the margin of the excavation; for the same reason the two bearing longitudinal rails are placed near the middle of the cross ones. Fig. 2. represents the appearance that this fence has when nearly viewed: the light ground on each side represents the close bitten or mown pasture; the dark ground among the rails the uncropped grass which springs up from the bottom of the excavation, and, partially covering the rails, tends to render the whole invisible, more especially if the rail be painted green. Fig. 3. is a section of the fence when thus placed, shewing the width of the excavation, which, where sheep, cattle, &c. only are to be excluded, as at Kingswood Lodge, need not be above four feet and a half wide and twenty inches deep; but where deer are kept, the width should be from six to ten feet, and the depth at least of the margins from twenty inches to three feet. The two posts which support the longitudinal bearers of the rail, the proper shape of the bottom of the excavation, and the grass which springs up from it, are also seen in this section. The grass, when it becomes too long, may be cropped with a scythe; for it may be observed here, that the cattle will not eat it, from an instinctive timidity at rails or palings, or even open gates, when laid along the surface. Fig. 4. shews the manner in which this fence may be placed upright in times of snow, when cattle might otherwise be in danger of walking over it. A similar purpose might be effected by other means; as by having

the bearing posts placed nearer each other, and then the weight of cattle on either end of the cross rails would weigh them down and be frightened away, while the fence would fall down in its former position. It is scarcely necessary to add, that both for this and the former purpose, the fence would have to be divided into lengths—and that for this last purpose (at least in cases where the excavation was deep) it would be proper to have two fixed rails, or one narrow deal, between each division for ladies to walk over*.

Another species of invisible fence, also invented by me, and which has most of the advantages of the preceding one, may be formed by making the excavation somewhat deeper, and sowing furze or planting thorns in it, and mowing them when they grow higher than the surface of the surrounding pasture. A section of such a fence is shewn Plate XVIII., fig. 5. In order to admit

* The only objections that can be made to this fence are those which were made by writers unexperienced in rural affairs when I first announced it*. The sum of their arguments is, that during night cattle may stumble on it and break their legs, and during day they may walk across it. Independently of the success of the trial at Kingswood Lodge, I have to offer, against the first argument, that in fields containing uninclosed pits or quarries, cattle are seldom or never known to fall into them; some striking instances of which there are in Derbyshire, and many parts of Scotland: and in respect to walking across this fence, it is well known that cattle will not, unless forcibly driven, and scarcely then, *leap over* a common rail or gate laid flat upon the surface of a grass field: rails and gates are much narrower than this fence, and have no excavation under them.

* In Observations on Planting, Landscape Gardening, &c. published 1804.

Loudon. del.

Storer. sculp.

Kingswood Lodge, the Seat of Gideon Bickerdyke, Esq.re as it appeared in 1802.

Published May 31 1806 by Longman, Hurst, Rees and Orme Paternoster Row

Pl. 25.

Kingsmead Lodge, the Seat of Gideon Bickerdyke, Esq.r as it appears at present

people to pass over such, a few planks could be painted green and laid across here and there, and they would soon be partially concealed by the thorns. The very great economy and simplicity in the formation of this and the former fence must be considerably in their favour.

Many sorts of ornamental or concealed fences may be made; walls may be partially covered with shrubs, creepers, and trees, as at Croome; hedges or palings by different sorts of these, as is beautifully exemplified at Monrith and White Knights; and sunk fences, having the wall ivied, as at Bellvue; and the excavation covered with thorns or shrubs, either wholly or partially, as in fig. 6., Plate XVIII. In many cases, artificial dingles may be advantageously used in place of a fence, and thus an excellent shady walk would be obtained at the same time. Many others might be mentioned. In altering or improving residences, the great art will generally consist in disguising or improving such as are already there; which, applied to every thing else, is in general a much better practice, than first to destroy or erase, and then create anew, what would have been proper originally.

SECT. III. OF THE FLEETING OR ACCIDENTAL MATERIALS OF LANDSCAPE.

These are numerous, varied, and interesting, though not often within the controul of the improver. They may be included under animated nature, moving objects, and changing elements. Even the larger classes of *animals* have each their appropriate scenery. Deer suit the extensive mountain, and forest-like park; horses the sweeping and extensive plain; sheep the rich lawn; cattle the meadow; asses the forest dingle; goats the rocky steep, &c. The hare suits best the sequestered glade, and the rabbit the naked or broken surface.—The shining trout, the clear rill; the pike, the dark and deep pool; and the eel, the muddy bottom. Even the different species of the winged tribe frequent each its peculiar scene or style of country, and has each its peculiar food*, from the eagle of Glencoe and Inverary, to the large raven of Gleneagles; the linnet of the furzy hills of Braid, to the woodlark of Levensgrove, or the heavenly nightingale of Persfield. Every species of singing bird, and all sorts of game, ought to be encouraged as much as possible about a residence, by planting such trees, shrubs, or

* See Introduction to Agriculture; article, *Animated Nature.*

plants, as they are peculiarly fond of; as the mountain ash, barberry, &c. for the thrush; the ulex for the linnet; the plantago, or polygonum, for the finch; the chervil, parsley, &c. as well as low bushes, for the pheasant and partridge; and the typha, iris, or phalaris, for the coot, wild duck, swan, or goose. Other birds or quadrupeds, pernicious to these, should be partially destroyed, as the magpie, hawk, squirrel, woodcat, &c.

Moving objects in the country have always a cheerful, and sometimes a grand effect. The shipping at Mount Edgecombe and North Berwick add highly to the interest of both those places. Even fishing-boats in lakes, barges in canals, waggons, carts, &c. have all their uses, and may all on occasion be made subservient to picturesque improvement. The smoke at Carron, when the sun by setting behind it throws a deep shadow in the Firth, is often as truly sublime, as when in a dark night its flames burst forth in spiral columns, and give the sea and the sky a fiery aspect in the same moment. Colebrook Dale is more varied and interesting, and during night more terrific; but from the want of accompaniments—of mountains, plains, and sea, it is less sublime. But even the smoke of cities and villages is of immense importance in real as well as imitated landscape: it gives consequence to a scene otherwise barren and uninteresting: even single cottages on the grounds of a residence often, by the ascent of their curling

volume of grey, vary a uniform bank or a monotonous outline. In the distant scenery especially, they may often be introduced with this effect, where perhaps, from the nature of the country, or the interference of other property, no other improvement could be adopted. This is no where better illustrated than at Hopton Court, where a bleak monotonous outline in the middle distance, and about a mile from the mansion, is not only improved, but even rendered interesting, by the smoke ascending from groups of cottages introduced in proper places. An attentive observer will see similar effects every where. Even the smoke of offices, farm buildings, hot-house fires, &c. may often prove of great service in the fore-grounds of a residence, by producing variety, increasing tranquillity in a moving scene, or promoting the idea of comfort and population in a dreary one. Witness the village of Dunkeld, the hot-houses at Havod, or the cottages at Foxley and the Holme.

The changes in the elements which constitute the seasons of the year, or the different periods of the day, are productive of infinite beauty in landscape; and often a scene, which has nothing intrinsic to recommend it, may, by the influence of a rising or setting sun, a dark cloud, a fog, or numberless other circumstances, be rendered so interesting as to engage the pencil of the painter. Every variety of storm, whether of rain, hail, snow, frost, or thunder, is highly interesting. The enliven-

ing influence of a fresh shower in the spring or summer months, in vivifying the singing birds, expanding the leaves of trees, sending forth the fragrance of vegetation, as well as rendering them more delightful to the eye, cannot have passed unnoticed by those who feel the force of rural scenes. The glittering dew on the gossamer of grass or shrubs—the morning vapour ascending from the circuitous brook, or collected hovering over the valley—the light summer clouds which denote great drought —the relaxing heat of noon, and the grandeur of the evening sky, need only be mentioned, to be deeply felt by all those who are

"True to each rural sight, true to each rural sound."

These and a thousand other beauties belong to the country, which happily art can neither create, deform, nor annihilate, and which may be enjoyed by the peasant on his native mountains, as completely as by the wealthy and noble in all the splendour of artificial magnificence. Such pleasure-creating scenes indeed deserve particular attention in a work like the present; as those who cannot enjoy them need not expect to be gratified with any sort of improvement or work of taste, further than as it corresponds with the fashion of the day*.

* Nature, thy charms let other men forego;
Thy paths of peace, enamel'd all with flowers;
Thy greenwoods gay, where sweetest warblings flow;
Thy wild walks, where the misty mountain towers;

And hie to where the cloud of battle lowers,
And Havoc, purple wing'd, o'ershades the path:
In Glory's wild pursuit strain all their powers,
And chase the phantom to the gates of Death;
What time Ambition pours the vial of her wrath:

For me—when I this primrose path resign,
Round which the balmy-breathing south wind plays;
Where the wild bees their honied sweets refine,
And murmur soft their little fairy lays:
When with a lover's eye I cease to gaze
On Nature's charms, though rob'd in simple stole,
For Pomp, for Honour's meretricious blaze
May Joy desert the Seasons as they roll,
And Pleasure ever be a stranger to my soul!

O! is there, Nature, in thy widest range,
That boasts the breath of life from gracious Heav'n,
And man's similitude, that would exchange
Thy pure delights, for all that wealth has given?
From the bright train that gems the brow of even,
His gaze averting, far away could start,
To watch and worship by wild passions driven,
Their image glittering near a villain's heart,
And tread, with such, the rounds of infamy and art?

CAREY'S *Pleasures of Nature.*

CHAPTER III.

OF THE UNION OF THE MATERIALS OF LANDSCAPE IN FORMING PICTURESQUE COMPOSITIONS.

HITHERTO I have treated chiefly of managing the materials of landscape, so as each of them may form agreeable compositions, whether near or distant from the eye, and whether alone or in union with other materials. I come now to offer a few hints on composition, and which are generally applicable to the whole. Whatever be the nature of a pleasing landscape, whether grand, beautiful, romantic, extensive, or confined, whether it consist of only one, two, or all of the materials, three marked distances always appear: nor can the eye dwell with pleasure on any scene where this is not the case*. Of these three distances, that which is nearest the eye, or the foreground,

* Component parts in all the eye requires:
One formal mass for ever palls and tires.
To make the landscape grateful to the sight,
Three points of distance always should unite;
And howsoe'er the view may be confined,
Three mark'd divisions we shall always find.
KNIGHT'S *Landscape.*

is ever the most important; and as it is always within the operations of the improver, it can be *disposed* at pleasure. The disposition of the foreground ought to be more particularly attended to at the mansion, and all buildings, seats, and walks, whither the spectator is generally conducted, and where he naturally expects the best compositions or views. The operations upon the *foreground* depend upon two things—its own natural character, and that of the distances: and the general principle, in guiding these operations, is, that the whole should harmonize. Thus if the middle distance be entirely covered with wood, a foreground of ground only is unsuitable; a few trees must be added, not only to strengthen the distinction between these component parts, but to unite them in character, and thus to strengthen the effect of the whole composition. These trees should even bear some relation in form and mode of growth to the distant wood or grove with which they are to assimilate: a foreground of poplars, or weeping birch, would ill suit a middle distance evidently of oaks, elms, or firs; that is, if these trees were so near the eye, as evidently to shew their characteristics. It is true, we frequently meet with this incongruity in the country; but then it is the effect of cultivation, or particular nature, and is to be rejected because inconsistent with her fundamental laws.

The *middle distances* of many views come within the province

of the improver; and in managing them the same general principle is to be attended to. What is middle distance to one view, will often be foreground or back ground to another; and therefore, before any alterations are made, the whole must be well considered from every point of view; otherwise incongruities will inevitably be produced. The same remarks will apply to the *background*; which, except in recluse scenery, is commonly without the immediate province of the improver. There are such abundant resources, however, that even the most distant scenery may be varied or harmonized, either by improvements upon itself, or by diversifying it by means of objects in the foreground or middle distance; and these objects, as we have seen in the last chapter, may either be the permanent, accidental, or fleeting materials of landscape. In general, it will be found, that by disposing the materials of landscape in every part of the picturesque scenery of a residence, under the leading principle of *unity in the whole*, and *connexion in the parts*, or *harmony*, which is the same thing, proper *foregrounds*, *middle distance*, and *backgrounds*, will present themselves everywhere without much trouble: and wherever these appear in some respects deficient; where the foreground is crowded or incongruous; the middle distance too near, or not sufficiently marked, the judicious improver will perceive it at first sight, and may easily alter it agreeably to the principles of painting; and I may add, that without a knowledge of these

principles any directions on this head would avail little, and even be liable to censure as too speculative. The man of improved taste, and who possesses a competent knowledge of the principles of painting, will think otherwise, and have little need of minute directions; for

> " 'Tis still one principle through all extends,
> And leads by different ways to different ends."

CHAPTER IV.

OF THE SUBJECTS OR PECULIAR SCENES OF PICTURESQUE IMPROVEMENT.

These are generally included under pleasure grounds and park scenery; but mere nominal distinctions are of little importance; the truth is, that as picturesque beauty is the most exquisite of rural nature, it ought to be more or less attended to in all parts of a residence, the mere internal arrangement of a kitchen garden or farm excluded; though even in these it may often be attended to in some degree, with no great disadvantage in regard to utility. Still, however, the wild deer park, or forest scenery, and those parts of the pleasure ground

where ornamental gardening does not prevail, are its peculiar provinces.

Parks, I conceive, ought to be of two kinds. 1. *Parks* of a small residence, where regard is had chiefly to the value of the pasture, and where the pasturing animals are horses, cattle, sheep, &c.: There the surface must be unbroken, clothed and varied, or characterized, chiefly by trees; unless we admit a few shrubs or lower growths near the mansion or walks of the pleasure or more ornamental parts. The apparent extent of this kind of parks depends more upon the variety of the grounds, and the manner in which the trees and shrubs are planted, than upon the number of acres. A level or uniform surface, spotted by circular, oval, or even angular clumps, and surrounded by a compact serpentine belt, as at Duddingston or Blenheim, can never appear extensive; but a very few acres of varied ground, sprinkled over with light groups, thorns, and hollies, appear boundless. In such a park, every step presents a new composition, arising from the varied herds of cattle intermingling with the trees, &c. and always changing their position: and as there is no permanent mark by which we can distinguish one scene from another, so as to know it again; a person might wander up and down the extent of a few acres for several days, without being able to say whether he was not traversing a park of several square miles. This is the case in natural forests from the same principles.

2. *Parks* where grandeur of character is the chief object. Nothing can contribute so much to this effect as the *wild, forest* style of breaking the ground and planting trees, shrubs, low growths, furze, bramble, plants, ferns, &c. and shewing roots, decayed trunks, rocks, or stones, when they may appear with propriety and apparent fortuitousness. The animals grazed should be chiefly deer, wild cattle, and horses. Parks are the prominent features of all extensive residences; and were this appearance of wildness and forest scenery given to them, words could not convey an adequate idea of the beauty and grandeur that would be communicated to them and to the country at large. I have already offered a few hints on this subject under *low growths*, *wild plants*, &c. and shall add a few more under PLANTING; these being the chief materials by which the effect is produced. But nothing can give an idea of what these effects might be, except looking at the finest passages of forest scenery, few of which now exist in the country. In New Forest, and that of Needwood, there are still select passages which every true admirer of nature will view with rapture and enthusiastic delight, and which no picturesque improver can examine without reflecting, or exclaiming, "What beauties would not be added to the already beautiful park of Donnington, to that of Blenheim, Croome, Dunkeld, Barnbugle, and, in a word, to all those esteemed the finest parks of the kingdom, by imitating such scenery!" The cold inquirer will say, Would

not the utility of such parks be injured? So it would, in some degree; but is not beauty or grandeur of character one of the chief objects of such scenes? if not, why change the common character of the country, why make the interesting variety of corn fields, farms, cottages, hedges, coppices, give way to one dull vapid monotonous surface of green, as insipidly varied by trees,—where one might wander an age without seeing any thing else than their naked stems and clump-like heads? Nothing can be grand or sublime, but as it soars above the common appearances of the like things. Now in a fertile and cultivated country, what can be more truly uncommon with regard to the surface, than making it assume the wild irregularity and excesses of nature, leaving flocks and herds to roam at pleasure, and despising the teeming abundance of cultivation, and the grosser ideas of mere profit or use*?

* It is not meant by this to affirm, that there would be much real difference in the annual profit of a park so laid out, when compared with one in the modern taste. What was not occupied with pasture would be covered with wood; which, whether as undergrowth, or timber produce, is highly valuable, and often produces as much profit as either pasture or aration—and in many scenes highly suitable for parks, more so, as will appear under PLANTING; besides the abundance of every species of game which this would produce, as well as the encouragement it would give to a beautiful class of singing birds. This being the case, and it being taken into view that deer are not grazed for pecuniary advantage, I cannot see that there would be any real disadvantage in point of profit by adopting this mode; and hence I should wish it in some degree attended to, even in parks of the smallest size, where cattle and sheep are grazed. In this age of refinement and universal cultivation, wildness and native simplicity have charms which are highly interesting to

THE PLEASURE GROUND may consist of scenes of different expressions of avowed art, as those of gardening; and of nature, as those of picturesque improvement, such as tranquil or sequestered glades, romantic glens, flowery meads, furzy heaths*, tangled dingles, wooded dells, rocky steeps, and numberless others which are to be met with in a varied or picturesque country, and are either to be heightened in effect, or preserved from cultivation, by the improver. Wherever the pleasure ground is not under some of the particular scenes of ornamental gardening, it should be fed, at least by sheep, and often by horses, cattle, &c. which should be allowed to come close to the terrace wall that separates the lawn from the mansion. The same ought to take place in the park front of the mansion; for what can be more dull and unnatural, than the modern method of surrounding a house by a naked lawn totally destitute of animation?

all those not absorbed in the vortex of fashion; the votaries of which pass through life *tickled* or amused, so to speak, but never enjoying any real pleasure, and totally dead to what in a wild country, among simple peasantry "All things give and all express,

"Content and rural happiness."

* In a design which I made for increasing the pleasure-ground or picturesque scenery at Ashton, I proposed preserving upwards of two acres of a rocky heathy common in its then state, and to be surrounded by irregular groups and masses of Scotch firs, thorns, and furze. This scheme met the approbation of the proprietor, and is, I suppose, carrying into execution. A wild heath was deemed by Lord Bacon one of the requisites of a perfect garden; and this, no doubt, from feeling the exquisite effect of wildness. The remains of this heath still exist at his seat near St. Alban's.

A hollow winding DELL, or DINGLE, containing a brook or rill overhung with wood, and its banks diversified by broken ground presenting various coloured earths, and among the low growths old trunks of trees, roots, and stones,—or, dells of a grander character, containing bold, perpendicular projecting or irregular massive rocks, overhung with huge trees, bushes, ferns and creepers, grouped and combined in an infinite diversity of ways—the stream interrupted by the rocks tumbling over in roaring cataracts, foaming cascades, or interrupted only by gentle falls,—and perhaps in some places (where the dell widens into a valley), spreading itself into a crystal lake, varied by little islands and woody projections, all heightened by the usual appendages of animation, the singing of birds, the fragrance of flowers, form what I consider to be among the most enchanting kinds of recluse pleasure-ground scenery. When a place is fortunate enough to have such a romantic chain of picturesque beauty as this, it should seldom be touched by the hand of art. It may happen, that some improvement may be made, by shewing, in a partial manner, rocks, roots, or stones, that are perhaps totally concealed; by augmenting a natural cascade, or by supplying ivy, or some other creepers or evergreens, &c.; but in general little more can be attempted with propriety. The principal operation that in any case can be undertaken in such a scene, is where it may be requisite to lead through a walk, or road, either to observe its beauties, or

as an approach to some other part of the residence. The difficulty of executing either of these will be great to those who think of nothing but undulating sweeps, shaven lawns, and serpentine gravel walks; but by those accustomed to admire this kind of scenery, the operation will easily be accomplished*.

Many dells of the most exquisite kind occur in Scotland and Wales. At Valleyfield, one of the finest sort, and in the grandest style, was treated lately in a manner which will hardly be credited by those who have not seen it. The occasion of this barbarous treatment was, that the approach to the house should be conducted through it: which might have been done by forming a good gravel road, and leaving every thing else in its natural state? but, in place of a natural or irregular margined road, the most formal, high-finished narrow gravel walk that can be imagined was carried stiffly along its banks, while all the wood was thinned—all the undergrowth, creepers, ferns, &c. were cut down, and every broken or abrupt part of the surface was taken away. Even some noble perpendicular rocks, overhung with large trees, with their edges varied by roots, bushes, and other intricate concealments, were totally bared, and the line of separation everywhere defined by a cut edge of turf-work, upon their tops and sides, exactly similar to that of the

* The walks at Piercefield, Havod, Birchhill, Dunglass, &c. afford examples in proof of this.

gravel walk: all the old surface of the rocks, which were beautifully varied by mosses, weatherstains, and plants springing from their crevices, was hewn off. This fresh, even surface, destroyed all the intricate concealments, crevices, lichens, and ferns, and every circumstance corresponding with their character and situation; while the ground in front of it, and all around, was neatly laid with turf, and made smooth and even. Thus, the grandeur and picturesqueness of these rocks were totally destroyed, and the whole mass made little better, in appearance, than an upright bank of red-coloured earth. The stream, too, which runs in this dell, was deprived of almost every beauty, particularly that of intricacy and shade, by reducing its edges to regular curves, and sloping the banks; and in places intended to be most seen, it was turfed neatly down to the brink of the water.

> "Shav'd to the brink our brooks are taught to flow,
> "Where no obtruding forms or rushes grow."

Every thing being smoothed and levelled, and the approach formed and covered with red ashes, which are still more glaring than gravel*, tender shrubs, larches and flowers, were planted

* Not only is breadth of glaring colours to be avoided in such scenery, but even smooth forms should not prevail. The gravel here used should have been coarse and of a dark colour; which not only would have better accorded with the proper visible effect, but in walking or driving over it the sensations produced upon the body would have been analogous to the impressions of roughness or picturesque beauty. Every one must have felt the difference between driving over smooth un-

in clumps and patches, where the natural growths had been just rooted up, and (child-like) a number of fantastical-looking stones, were brought from the sea-shore and regularly distributed (for to group them was a thing they had no idea of) in the most conspicuous places along the sides of the road, and particularly along three (otherwise proper enough) bridges by way of parapet.

This dell, at present, has an appearance which may give a fertile imagination some idea of what it has once been; but, had the reader seen it previously to the commencement of these operations, about five years ago, it would probably fill him with the deepest regret to see it at present*, fresh from the improver's desolating hand.

The flower-garden, a right-lined canal, which its contriver endeavours to defend from the principles of contrast, and almost every other operation of art at this place, in which effect is the principal consideration, is equally unnatural, misplaced, or out of character. The proprietor has thrown away an immense sum of money in counteracting nature, and deforming his grounds: and as all this is finished from the plan and red-

dulations of pasture in a park, and across stony brooks or rough lanes in forest or wild scenery. Those who have had the pleasure of walking through the dell at Cames-Eskan, or the woods at Rhydal, will recollect the grateful harmony produced by the same circumstances accidentally existing in these paths.

* In 1804, when this was first written.

book of Mr. Repton, and approved of by him in a late work, it confirms me in my opinion of landscape gardening, and its champion and defender against the introduction of the picturesque*.

> Far hence! let REPTON, BROWN, and EAMES,
> Zig-zag their walks, and torture streams;
> But let them not my dells profane,
> Or violate my Naiad train;
> Nor let their arrogance invade
> My meanest Dryad's secret shade,
> And with fantastic knots disgrace
> The native honours of the place;
> Making the vet'ran oak give way,
> Some spruce exotic to display.
> Their petty labours be defy'd
> Who *taste* and *nature* would divide.
>
> *Lines which were left written on a seat at Havod.*

Mr. Graham, in his "Birds of Scotland," has several excellent remarks on the absurdity of modern landscape gardening. After ridiculing the display of "a sea of lawn," and the destruction of avenues, old trees, and those beautiful lowgrowths, tufts, and wild plants, which so much encourage his favourite birds, he concludes—

* Mr. Repton observes in a note, that "this approach remains a specimen of the powers of landscape gardening in that part of Scotland" (Perthshire)!!!—I hope the proprietors of that lovely country will never again admit such a formidable foe. If they do, I conjure all my countrymen to unite in declaiming against their taste; and if they will not then refrain, let the poets enrol their names among the enemies of nature; let them

> "Stamp their stigma deep eternal infamy."

" ———— But should the tasteful power
Pragmatic, which presides with pencilling hand,
And striding compasses, o'er all this change,
Get in his thrall some hapless stream that lurks
Wimpling through hazelly shaw and broomy glen,
Instant the axe resounds through all the dale,
And many a pair unhoused hovering lament
The barbarous devastation: all is smoothed,
Save here and there a tree; the hawthorn, briar,
The hazel bush, the bramble, and the broom,
The sloethorn, scotias, myrtle, all are gone;
And on the well-sloped bank arise trim clumps,
Some round and some oblong, of shrubs exotic,
A wilderness of poisons, precious deemed
In due proportion to their ugliness."

The kind of scenery destroyed, to give way to this mode of improvement, may be conceived from the following passage:

" What though fair Scotland's vallies rarely vaunt
The oak majestical, whose aged boughs
Darken a road breadth! yet no where is seen
More beauteously profuse wild underwood;
No where; 'tis seen more beauteously profuse,
Than on thy tangling banks, well wooded Esk,
And Borthwick thine, above that fairy nook
Formed by your blending streams. The hawthorn there
With moss and lichen grey, dies of old age,
No steel profane permitted to intrude:
Up to the topmost branches climbs the rose,
And mingles with the fading blooms of May;
While round the briar the honeysuckle wreathes
Entwine, and with their sweet perfume embalm
The dying rose: a never-failing blow,
From spring to fall expands; the sloethorn white
As if a flakey shower the leafless sprays
Had hung: the hawthorn, May's fair diadem;
The whin's rich die; the bonny broom; the rasp
Erect; the rose, red, white, and faintest pink;
And long extending brambles flowery shoots.

GRAHAM's *Birds of Scotland*, page 24.

BOOK I.

PART VIII.

THE FORMATION AND MANAGEMENT OF

USEFUL AND PICTURESQUE PLANTATIONS.

INTRODUCTION.

VARIOUS are the vegetable productions which this earth affords. Blades of grass spring up every where, and clothe the surface with pasture; groups of shrubs arise in some places, and diversify this uniform covering; but trees are the most striking objects that adorn the face of inanimate nature. If we could imagine for a moment that the surface of Europe were totally divested of wood, what would be our sensations on viewing its appearance? Without this accompaniment, hills and vallies, rivers and lakes, rocks and cataracts, though in themselves the most perfect that could be imagined, would be comparatively bleak and uninteresting. A lake, whose surface

has nothing to reflect but the sky, has a meagre and dreary aspect. A solitary cataract, though it may strike the beholder at first sight, yet being deficient in that variety and intricacy which trees alone can produce, soon ceases to be pleasing. Very different is the effect of a country interspersed with wood, where "hill is united to hill with sweeping train of forest and prodigality of shade;" where the streams are diversified by trees, or concealed by bushes; and where the lakes reflect with additional lustre the beauteous tints and varied forms of the woody scenery by which they are surrounded.

Few can have overlooked this difference, in comparing the northern with the southern parts of the island. Some of the northern counties are nearly destitute of trees: there the traveller comprehends the whole horizon before him with a single glance of the eye, which in vain roams over it in quest of an object on which it may repose. The powers of vision being thus unsolicited become unemployed, and leave the mind vacant: or should the effort be renewed, under the fancied advantage of a new station, the consequence will only be weariness and fatigue. But in Herefordshire, and Monmouthshire, the beauties of a hilly and wooded country are united; there the eye is continually feasted with scenes of grandeur and beauty, ever varying, and ever filling the mind with the most pleasing and enrapturing sensations. Even in countries less

varied in surface, and presenting few masses of wood, trees, though scattered with a sparing hand, and with no regard to beauty, have an excellent effect. Whatever formality or sameness there may be in the distance, the foreground trees disguise it, and form between their stems and spreading branches numberless combinations, or pictures, which meet the eye successively in passing along. This powerful effect, which every one must have observed, and to which few can be insensible, is often produced unintentionally, by the simplest means; merely by hedge-row trees.

Trees indeed, wherever they are introduced, seldom or never displease. There is no other material of landscape so powerful in producing variety and intricacy, those "nourishers of curiosity" which attract the attention, and by which we are interested long after the first impressions are effaced. They group with rocks, ruins, buildings, animals, and whatever they are near; and, by partially concealing them, produce the most interesting combination: these are continually varying, as the spectator changes his place; and every variation has the charm of novelty and beauty.

Leaving the study of trees in combination with other objects, if we attend to the different species individually, a new source of beauty and character presents itself, which is no less interest-

ing. On naming the oak, the willow, the cedar, the pine, the cypress, &c. their peculiar form, tints, and modes of growth, successively present themselves to the imagination, each tree forms distinct character, highly pleasing and interesting. Again, if we examine any of these trees by itself, the number and diversity of boughs, spray, and leaves of which it is composed, its varied and rich masses, their different tints, and the various effects which they are capable of receiving from light or shade, the breeze or the storm, is wonderful; and comparing it with the works of art, we are astonished that such a collection of separate, and apparently discordant parts, should produce such an excellent and harmonious whole.

Numerous are the pleasing effects, independent of utility, that result from a wooded country, compared with a naked one. The different seasons are more strikingly characterized; the sounds of waterfalls, the murmur of the breeze, and the bleating of cattle, have each their charms greatly heightened by passing through trees: deprived of them, we should lose what adds to the pleasure resulting from viewing the finest landscape, the melody of singing birds; and let me observe, that those who live in naked countries, though they may possess the lark and the linnet, can have no just idea of the effects of many other birds peculiar to woody scenes*.

* See Graham's "*Birds of Scotland.*"

But wood is not only the greatest ornament on the face of our globe; it is also the most essential requisite for the accommodation of civilized society. The implements of agriculture, the machinery of manufactories, and the vehicles of commercial intercourse, are almost wholly made of timber; and there is scarcely an edifice or superstructure of any denomination, of which this material does not form a principal part. Wood is more particularly valuable in Great Britain, where the prosperity, nay the very existence of the empire depends upon the support of its numerous ships, emphatically called its "wooden walls."

From the extensive utility and unrivalled beauty of wood, it may reasonably be supposed to have been assiduously cultivated in all improved countries; and, accordingly, we find that trees have been planted, and the growth of timber encouraged, by every polished nation. To this subject, as to all other parts of rural economy, the Romans paid great attention; and the writings of some of their most celebrated authors contain many excellent observations and precepts, on the culture and management of timber and ornamental trees. This island has long been more indebted to natural forests than artificial plantations; though for above two centuries past planting has been more or less a prime object. But till

the improvements in agriculture and the arts, the increase of our shipping, and the more general introduction of luxuries, took place, there was no immediate inducement to plant for profit; nor was knowledge or taste in the art of planting by any means extensive. In consequence of the increasing consumption of the navy, the value of timber was enhanced; and as the natural forests were suffered to decline, and the number of acres planted did not keep pace with the number annually cut down, a proper supply of this article for the market was not to be had, and the defect still exists. Timber of all kinds is daily advancing in price; and, from the great numbers of King's ships*, merchantmen, and other craft, that have lately been built, in connexion with the wretched management of the royal forests, oak-timber fit for the purposes of naval architecture is now alarmingly scarce; and should Great Britain become dependent on other powers for the means of supporting

* "A seventy-four gun ship (we speak from good authority) swallows up 3000 loads of oak timber. A load of timber is 50 cubical feet; a ton 40 feet; consequently, a seventy-four gun ship takes 2000 large well grown timber-trees; namely, trees of nearly two tons each!

"The distance recommended by authors for planting trees in a wood, in which underwood is also propagated, is thirty feet or upwards. Supposing trees to stand at two roods (33 feet, the distance we recommend they should stand at, in such a plantation) each statute acre would contain 40 trees; consequently, the building of a seventy-four gun ship, will clear of such woodland, the timber of 50 acres."—— *Planting and Rural Ornament*, 3*d. edit. vol.* 1. p. 111.

her navy, her consequence as a nation will certainly be in danger*.

Besides the intrinsic value of timber, there is another way in which wood is very profitable; that is, by affording shelter to exposed lands. In many places, strips of wood alone, with little or no culture bestowed on the soil, have rendered pasturage of threefold its former value. In the north of Scotland, belts, and even single rows of larches, have operated so rapidly and powerfully in this way, that their effects are hardly credible by any but those who have been eye-witnesses. Even on estates where plantations are unfit for cutting down either as timber or copse, or though they should be so young as to afford no shelter, still they are valuable when we look forward to futurity; and the planter, should he be disposed to sell his estate, is sure of being handsomely rewarded for his trouble. "Thus supposing the half-grown timber on an estate to be valued at ten thousand pounds on the day of sale, instances are not wanting where twenty, nay, twenty-five thousand have been given over and above the value of the land†."

* See the Report given in by the Commissioners appointed by Parliament, some years ago, to inquire into the state of the Royal Forests.

† Practical Planter, p. 341.

The beauty of wood on individual estates is too obvious to require illustration. Although every one cannot analyse its effects, all mankind can relish them. The noble grandeur and rich beauty of a hanging wood, in autumnal colouring, seen from below, cannot be unknown; and the fine effect of a dark green tree, or group of trees, backed by the splendour of a morning or the glow of an evening sky, cannot be unfelt by any mind, awake to the finest feelings of our nature. It is in the arrangement and management of trees and shrubs that picturesque improvement almost wholly consists: all the other materials of landscape are commonly beyond our controul. Earth and rocks are in general too ponderous to contend with,—buildings are often too expensive,—and water is only to be met with in certain situations and circumstances; but we rarely find a spot where trees cannot be planted, and we can hardly conceive one where they will not greatly add to the beauty and variety of natural scenery.

But, independently of the beauty and profit of wood, the *pleasure* attending the formation and management of plantations, will be a considerable inducement to every virtuous mind. We look upon our young trees as our offspring; and nothing of inanimate nature can be more gratifying than to see them grow and prosper under our care and attention; nothing more

interesting than to examine their progress, and mark their several peculiarities. In their progress from plants to trees, they every year unfold more characteristic marks of their ultimate beauty; which not only compensates for past cares and trouble, but, like the returns of gratitude, raise a most agreeable train of sensations in the mind; so innocent and rational, that they may justly rank with the most exquisite of human enjoyments.

> " Happy the man possessed of ancient groves;
> Happier who plants his trees: while time improves
> And forms their beauties to reward his care,
> He, like great Cyrus, cries, ' I placed them there'."

But, as the most powerful motives to planting are those which address themselves to the interest of the individual, I proceed to consider it more particularly in this point of view. The great profits which arise from planting, have been taken notice of by many writers*; and if we look into their works,

* See Du Hamel's Works; Mr. A. Young's Tours; Hunter's Evelyn's Sylva; Agricola on Timber Trees; and a great many other authors. It is not affirmed, that the above profits are what commonly attend planting; or, even what might uniformly attend it, supposing good management: they are only mentioned here to shew what has been done in particular situations. I have judged it necessary to remind the reader of this; because, in the Monthly Review for May 1806, it is stated, that I affirm planting to be abundantly more profitable than agriculture: which is far from being the case, as will appear in the next page. The truth is, that the review of my work in that publication consists in an entire misrepresentation of my sentiments on *planting* and *improvement*; while the author of it does not shew the least

we shall find, of clear profit, in particular instances, all the intermediate sums between forty shillings and three hundred pounds sterling an acre yearly; and this annual return commences, in some kinds of plantations, the second or third year after planting (such as osier plantations, which in many places yield from 15 to 30*l.* *per annum*;) or in ten, fifteen, or twenty years, as coppices or fir groves, which are very lucrative plantations; but the highest sums can only be expected to commence thirty or forty years, or more, after planting; and even then, the value of other products is included in connection with the timber, as the resin of the pine and fir tribe, the bark of the oak, the sugar of the maple, &c. In general, however, it may be safely asserted, that no kind of plantation, if properly made and kept, will be longer than ten years before it yield returns; and that some annual profit will be obtained more or less afterwards, from the thinnings and prunings, until the trees shall be finally cut down. From the various authors that have made these measurements and calculations, and also from a number of places both in England and Scotland, there is the most conclusive evidence, that planting is equally profitable with agriculture, except perhaps in particular circum-

degree of knowledge of the subject himself.—While noticing this, however, I cannot avoid acknowledging my obligations to all the other reviewers for their candour and liberality. See the Farmer's Magazine, Imperial, Critical, Anti-jacobin, and Annual Reviews. The instance alluded to is a contrast; and all contrasts afford exercise to the mind—sometimes instructive—often agreeable; and always amusing.

stances. But what is of great importance is, that it is often most profitable in lands not adapted to the general purposes of husbandry, such as dells, steep banks, rocky precipices*; for deep rich soils, however favourable to other vegetables, are not the best for producing timber; and it deserves to be remarked, that so long as ground of the former kind remains unplanted, little or no rich arable land should be covered with trees. But I wish it to be understood here, that such profits, arising from plantations, as have been mentioned, only take place when proper management is bestowed upon them. In the instances authenticated by these authors, many of which may still be seen in different parts of the country, the soil was most commonly prepared, the plants always carefully inserted, protected from cattle, cultivated, trained, and thinned; and hence the result:—but this is by no means the case with the plantations that are generally made; and, of course, they give but a faint idea of the profits arising from planting.

Upon the whole, noblemen and gentlemen are presented with the most powerful motives, both of a public and private nature, to induce them to plant. Trees are beautiful objects, the great-

* At Dunkeld, Taymouth, Blair in Athol, and many other places in the north of Scotland, there are larches growing in such situations, from forty to fifty years old; which, if cut down now, would pay *at the rate of* 80*l.* or upwards each acre *per annum* since they were planted. See Planting and Rural Ornament, Vol. I. page 180, 3d edition.

est ornament to individual places, and the noblest improvement of a country. Timber is a valuable article; as it affords great gain to the individual proprietor, while it is the source and support of the naval character and dignity of the British Empire.

As wood is productive both of beauty in landscape, and of utility to the landed proprietor, it naturally follows, that he who would direct the forming of plantations should be well acquainted with trees, as far as they can operate in these particulars. In this comprehensive point of view, I have considered the subject, both in theory and practice; and the following pages contain the leading particulars of improved practice; most of which appear to be too little attended to, and some of them are not generally understood. In these observations I have omitted altogether one division of the subject, viz. the formation and management of the nursery; it being not only better known than the others, but less connected with the purposes of this work. The rest is thus subdivided: 1. The objects of planting; 2. The materials and means for accomplishing these objects (Chap. II. and III.); 3. The subjects or different kinds of plantations (Chap. IV.); 4. The practice of forming plantations (Chap. V.); and 5. Their future management (Chap. VI.).

CHAPTER I.

OF THE OBJECTS OF PLANTING.

THE different purposes for which plantations are made may be comprehended in two general divisions, ORNAMENT AND UTILITY.

Wherever ORNAMENT is the principal consideration, there must be a particular effect, or union of qualities or character, which the artist intends to produce. As in this material of landscape I consider ornament to consist in natural beauty (and not in the appearance of art, either in the form or disposition of trees); so these effects will generally be a beautiful variety, or a picturesque variety, in small plantations—A degree of grandeur or sublimity in woods, forests, or such as are of considerable extent: and particular character, contrast, or intricacy in single trees.

It will naturally occur to every one who has attended to the Essay on Taste in this work, that where a *beautiful variety* is to be produced, the most graceful and delicate forms, the most pleasing colours, and the most fragrant smells, must be collected and arranged together, according to the principles of this *expression**.

* See Part I. Chap. III.

Where *picturesque variety* is to be produced, the forms collected should be the most irregular that can be found; and these should be *disposed* in a manner still more so. The colours should be forcible and striking; and so contrasted, as to prevent monotony, without destroying harmony. The fragrance also should be of a corresponding nature.—It will be thought by some, that these distinctions are too nice; but those who are conversant in trees and shrubs will allow, that a neat gravel walk, winding easily through a smooth turf, among varied groups of such trees and shrubs as the willow, lime, acacia, arbutus, lilac, jasmine, honeysuckle, rose, &c. will have quite a different effect, and smell, from those of a path in a rugged dell, forcing itself through irregular groups and thickets of oak, elm, thorns, bramble, elder, dogwood, spurge, &c.; and, if we were to add appropriate plants and grasses to each scene, their effects, particularly as to smells, would be much stronger.

Where a degree of *grandeur* or *sublimity* is to be produced, the effect will generally depend more upon the outline and extent of the plantation, than on the kind of trees planted. But oaks, chesnuts, and pines, are in their very conformation grand and impressive; they have besides solemn and gloomy colours; and, when collected together, are better suited to this purpose than others of more light and airy shapes and gayer tints.

These three characters may produce others by being mingled in different degrees. By attending to trees individually, in connection with the principles of taste, numerous expressions may be produced, as *gaiety*, *melancholy*, *elegance*, &c. The separate effects mentioned, however, are sufficient to suggest what may be accomplished, if the operator possess a competent knowledge of the different species of trees.

UTILITY includes two objects; profit or value, and shelter or shade. Where *profit* or *value* is the prime object in view, there will necessarily be a particular product to be grown, from which it is to be derived. This product may consist of all, or of any of the different parts of a tree; as the roots, trunk, branches, bark, &c. or of the essence of any of these parts, as the sap, resin, gums, tar, pitch, &c. Timber and bark, however, are the products most commonly raised; and these and their properties vary infinitely in different degrees. The timber of some is brittle, of others tough, of some hard, and of others soft:—and the bark is of different degrees of astringency, sweetness, or acritude. These qualities and parts of trees are all adapted to different purposes in the arts; and which of them it is most desirable to raise, must depend entirely upon the probable consumption, the soil, situation, and other circumstances. Wherever profit is the principal consideration, the products most in demand in the given situation should be known; and the trees most productive of these, must alone be planted.

This may point out the necessity of attending to the natural soils and situations of trees and shrubs, the qualities of their products, their uses in the arts, and their relative value.

Where *shelter* or *shade* is the principal consideration, the qualities of each require to be investigated, and those forms used which are best adapted to that purpose. The object of *shelter* is to produce heat; and to protect cattle and pasture from the inclemency of the weather. Hence, the trees used for this purpose should be clothed with branches and foliage from the ground upwards. The foliage should be perpetual, and, if possible, so compact upon the spray and branches as not to be easily permeable by the wind, such as is that of the resinous tribe of evergreens. This may be thought too nice a distinction; but any person would be sensible of the difference, if in a windy day he were to stand alternately under the shelter of a group of *hollies* and *spruce firs*, of equal magnitude.

The object of *shade* is to produce cold; that men or cattle may enjoy the cool refreshing breeze unmolested by the mid-day sun. For this purpose, it is essentially necessary that the stems of the trees be free from branches to a considerable height, in order to promote the free circulation of the air. It is true, most trees may be trained in this form; but the operation would injure the character or use of some kinds, whilst others are greatly improved by pruning. The shade of some trees, as the walnut,

is pernicious, and should be guarded against; others are so thin of boughs and leaves, that the rays of the sun will pierce through the interstices; and these also must be rejected. This may shew the necessity of attending to the nature and kinds of trees that are planted for either of these purposes.

It is the intention of this Chapter to shew, how essentially necessary it is for the planter to be intimately acquainted with the characteristic distinctions, and particular properties, of trees and shrubs. He should not rest satisfied either with a mere botanical, or a slight general knowledge; he should have in his mind a clear and distinct picture of the character, properties, and peculiarities of every individual species; that, whenever a tree shall be wanted, that kind may instantly present itself which is best fitted for his purpose. This injunction will not be considered as too severe, when it is recollected that almost every visual or picturesque effect in rural improvement is produced by planting.

CHAPTER II.

OF TREES AND SHRUBS; THE MATERIALS WITH WHICH THE OBJECTS OF PLANTING ARE TO BE ACCOMPLISHED.

SECT. I. OF THE CLASSIFICATION OF TREES, ACCORDING TO THEIR VISIBLE CHARACTERISTIC DISTINCTIONS AND USEFUL PROPERTIES.

It seems almost needless to mention, that a botanical knowledge of every tree and shrub is essentially necessary for the planter; but it is not by minute botanical distinctions that these must be arranged in artificial scenery. The general magnitude, form, and colour, are what more immediately strike the eye; and the effect of trees consists not more in their relation to the surface than in their agreement in these characteristics. But in plantations where profit is the sole object, the principal things to be attended to are the particular properties by which they are adapted for particular soils, situations, and uses. These are so intimately connected with their distinctions in regard to beauty, that in prosecuting this subject, with a view both to use and picturesque effect, it seems necessary to treat of them together under the following heads:—1. Magnitude. 2. Form.

3. Texture. 4. Colour. 5. Mode of Growth. 6. Smells. 7. Bark. 8. Buds. 9. Leaves. 10. Flowers. 11. Fruit. 12. Roots. 13. Propagation. 14. Soils. 15. Situation. 16. Culture. 17. Pruning. 18. Transplanting. 19. Products. 20. Uses. 21. Relative Value. 22. Natural Character. 23. Accidental Character.

1. With respect to *magnitude*, trees and shrubs are either very high, as the horse-chesnut and the larch, the cornelian cherry, and the snowdrop tree; or very low, as the mountain ash and hemlock fir, the Scotch rose and the butcher's broom. Some trees are very broad, in proportion to their height, as the oak and the Spanish chesnut; others are very narrow, as the larch and the spruce fir. There is a medium between all these extremes, as the ash-leaved maple and the evergreen oak, the Virginian raspberry, and the Guelder rose.

2. With respect to *form*, the different varieties may be included under the following heads:—Apparently solid, being thick with branches and foliage, as the horse-chesnut and the English elm, the lilac and the syringo;—light and airy, thin of boughs and leaves, as the ash and the hoary poplar, the bird cherry and the Canadian mespilus. There is a medial degree between these two extremes, in the broad-leaved *euonymus* and

the ash-leaved maple. They may next be divided into those whose branches begin from the ground, as the fir tribe and most shrubs; or those which shoot up into a stem before their branches begin, as the mountain ash and the *althæa frutex*. Of those whose branches begin from the ground, some rise in an elegant cone, as the larch and the holly; others in a cone whose base is very broad, as the cedar; or whose base is very small, as the upright cypress. Some swell out in the middle of their growth, and diminish at both ends, as the Weymouth pine; and some are broadest at the top, as the raspberry and the Alpine honey-suckle; some are irregular and bushy throughout, as the evergreen oak, and the snowball tree. Of those which shoot up into a stem before their branches begin, some are slender cones, as the deciduous cypress; others are broad cones, as the balsam poplar. Some assume a globular form, as the mountain ash; and many are irregular throughout, as the Scotch elm and the acacia.

3. With regard to *texture*, some trees and shrubs have a soft, smooth appearance, as the lime and the scorpion senna; others have a rough, firm appearance, as the evergreen oak, and the holly. Some have a smooth, silky appearance, as the tamarisk; others have a downy, woolly appearance, as the hoary poplar. Some appear totally covered with thorns, as the furze

and the hedgehog holly; others appear wholly composed of thready shoots, as the Portugal broom.

4. *Colour* in trees or shrubs is either accidental or permanent. Permanent colours include all the different shades of green in the summer months; accidental colours the tints of red and yellow that are peculiar to autumn and spring. Some permanent colours are of a dark green, as those of the horse-chesnut and the yew; some are of a light green, as those of the ash and the common laurel; some are of a bluish green, as those of the Scotch fir and the bladder senna. Some trees are of a green, tinged with brown, as the Virginian cedar; others of a green, tinged with white, as the abele and the Lapland willow. Some greens are tinged with yellow, as the ash-leaved maple and the Chinese arbor vitæ; some are tinged with red, as the scarlet maple; others are tinged with purple, as the purple beech. Some greens are spotted with white, yellow, and red, as the variegated holly, privet, sycamore, box, and many others. Accidental colours are infinite in number, and each kind is liable to much variation. In autumn, however, it will generally be found that the wild cherry assumes a bright red, the birch a deep red, the beech a brownish red, the scarlet oak a deep scarlet, the hornbeam a russet colour, the sugar-maple a rich yellow, the oak a reddish yellow, the lime and ash a straw colour, the balsam poplar black, the sycamore of a dark brown, &c.

5. The *modes of growth* are very different in trees and shrubs. Some send out their branches horizontally, as the oak; in others, they tend upwards, as in the Huntingdon willow; in others, they fall, as in the lime, and the acacia. In some, they incline obliquely, as in the Scotch fir; in some, they recline, and then rise up, as in the larch; in others, they hang directly down, as in the weeping ash and weeping willow. Some shrubs creep along the ground, as the periwinkle; others clasp themselves to trees, as the passion-flower; others fix themselves to buildings, as the ivy. Some trees in whatever way they may be placed or pruned, constantly assume one principal stem, from which all the branches proceed as rays from a centre, as in the fir tribe; in others, the trunk divides itself into arms, which send out branches irregularly, as the oak, &c. Some shrubs have only a single stem, as the althæa; others constantly spread along the ground, sending up more, as the hypericum.

6. With respect to *smells*, some trees and shrubs have scarcely any, as the evergreen oak and the *platanus*; others have a most grateful fragrance, as the birch and the sweetbriar. Some have a luscious smell, as the mezerion; others a disagreeable smell, as the elder; and the smell of some is deleterious, as that of the walnut and the artemisia. The fragrance of some is greatest when the plant is in blossom, as the hawthorn; in some, it is confined entirely to the blossom, as the lilac; in others, it is

equally diffused throughout the whole plant, as in the sweet-briar, and several others. These are the general characteristics of trees and shrubs; but there are many other peculiarities which present themselves, upon a more minute examination, which, where ornament is attended to, deserve also the notice of the planter. Some of these I shall advert to in treating of the bark, buds, leaves, flowers, and fruit.

7. With respect to the *bark* of trees and shrubs, in some it is of a red colour, as in the dogwood; in some white, as the birch; in others black, as the oak; in some brown, as the Guelder rose; in others green, as the holly. The texture of the bark of some trees is firm, as the oak; of others spungy, as the cork tree. The bark of some is very thin, as the beech; of others very thick, as the Scotch fir. Of some it is brittle, as the hornbeam; of others glutinous, as the holly; of others thready, as the lime and the elm. The duration of bark varies. Some trees throw off annually their outer coat, as the arbutus and the birch; but most trees constantly retain it. The properties of some barks are astringent, as those of the oak and the bramble; of others sweet, as of the lime; of others bitter, as of the abele; of others resinous, as of most of the fir tribe.

8. With respect to *buds*, some trees have no buds at all, as the pine tribe, and most evergreens; in others they are very large,

as the horse-chesnut; in others very small, as in the willow. In some they are covered with a coat of glutinous matter, as those of the horse-chesnut; in others with a dry tegument, as those of the beech. Some buds are of a red colour, as those of the lime; others are yellow, as those of the willow; others black, as those of the ash: brown, as in the beech; or red and green, as those of the common sycamore.

9. There is an almost infinite variety in the *leaves* of trees and shrubs. Some are very broad, as the common laurel; others very narrow, as the larch. There is a medium between these two extremes in the willow and the almond. Some leaves are entire, as the bay; others serrated, as the cherry; pinnatifid, as the acacia, &c. Some leaves are covered with down, as the sea buckthorn; others with wool, as the hoary poplar; others with prickles, as the holly; others with a glutinous substance, as the *gum cistus*, &c. Leaves are of all the different shades of green in the summer months; and of all the different tints of red and yellow in autumn and spring. Some trees retain their leaves and colour throughout the whole year, as the pine tribe; others lose their green colour in autumn, yet retain their leaves all winter, as the beech and the hornbeam in some circumstances. The elm, the ash, and most other trees, drop their leaves in autumn, and are naked all winter. Leaves have, in general, the same properties as the bark, only in a fainter degree. These are of considerable importance. Those of the

alder and box are refused by cattle; those of the elm are greedily devoured; those of the fir are obnoxious to many insects which infest hot-houses, &c.

10. The *flowers* of trees vary almost as much as the leaves. Those of some are large and showy, as the rose and the honeysuckle; in others they are small and obscure, as in the *alaternus*. The flowers of some cover the whole plant, and soon fade, as those of the hawthorn; in others, they are thinly distributed, and continue a long time, as those of the passion-flower. Some come into blossom very early, as those of the mezerion; others very late, as those of the sweet chesnut, and the *althæa frutex*. Some trees and shrubs cease flowering before their leaves expand, as the almond; the blossom of others makes its appearance only when the leaves fall off, as that of the hazel.

11. The *fruits* or seeds of trees vary considerably. Some are brilliantly coloured and showy in appearance, as the clustered berries of the mountain ash; in others, the seed is very obscure, as in the willow. Upon some trees the seeds remain two or more years, as the cones on the fir tribe; in others but a few weeks, as the capsules of the elm. Some fruits or seeds are used for culinary purposes, and contribute to enrich our desserts, as the apple and the walnut; others for fattening the inferior animals,

as the acorn and the beech-mast; some again are poisonous, as the berries of the deadly nightshade, and those of the mezerion. The observations which follow, along with characteristic distinctions, comprise what may be called particular properties of trees.

12. The *roots* of trees are as much varied below ground, as the stems and branches are above the surface. Some spread themselves horizontally, as those of the pine and the fir tribe; others send down perpendicular roots to a great depth, as those of the oak and the chesnut. There is a medium between these two extremes, in those of the lime and the beech.

13. The modes of propagating trees and shrubs are various. Some are raised from seeds, as most forest trees, such as the oak, ash, elm, larch, &c.; others from layers, as the lime, platanus, rose, and most shrubs; others from cuttings, as the poplar, willow, honeysuckle, &c.; others from suckers, as the *abele*, *gale spirea*, &c. Others are propagated by ingrafting, as the weeping ash, &c. others by inoculation, as the double-blossomed almond, and the weeping cherry. And some kinds are, or may be, propagated from the roots, as the thorn, mezerion, &c.

14. With respect to the *natural soils* of trees: some love a

deep, strong soil, as the oak; some a dry, gravelly soil, as the beech; some a deep, moist soil, as the poplar; others a peat-earth soil, as the erica, &c.; others, again, love a wet soil, as the alder. Some trees will grow in almost any soil, as the Scotch fir; others will scarcely grow in any but their natural soil, as the *rhododendron* and the *andromeda*. Some hardly require the aid of soil, as the ivy; others are parasites, as the misletoe.

15. The *situations* that trees naturally affect, are various. Some will endure exposure of almost every kind, except a strong sea breeze, as the larch, Scotch fir, and mountain ash; some endure the sea breeze much better than others, as the sycamore, ash, service, and elder; some will not prosper except in a low, sheltered situation, as the black spruce, and most American plants; some will grow under the drip and shade of others, as the Scotch elm, Norway maple, hemlock spruce, dogwood and box; others would die in that situation, as the larch, the pine, and the willow.

16. Trees and shrubs, especially when young, require not only a soil and situation, but a *culture*, suited to their respective natures. Some require the earth to be frequently stirred about their roots, as the lime and the lilac; others will make equal progress, if the surface be kept free of other vegetables,

as the oak and the chesnut; others thrive best when the surface is covered with mosses, as the rhododendron and the erica.

17. With respect to *pruning*, there are some trees that will not bear the knife, as the cherry: the wood of others is often hurt by it, as the pine and fir tribe. Some, again, will bear it to any degree, as the thorn and the crab-apple. These peculiarities apply to trees of some height. Most trees, when very young, will bear pruning; and many require it, to train them to single stems. The silver fir, when in the nursery, requires its side shoots to be shortened; and young oaks, some years after they are finally transplanted, should be cut over by the surface.

18. Most trees require to be *transplanted* in the nursery-ground the first or second year from the seed; and re-transplanted from the nursery into plantations, when under four feet high. Some are little hurt by this removal, as the elm; others sometimes die after it, as the spruce and the Weymouth pine. Some trees die when transplanted after they are eight or ten feet high, as the pine and fir tribe; others may be transplanted at even double that age, as the lime, the elm, the sycamore, and many other deciduous trees; but a year or two previous to removal, their roots must be cut, and their tops pruned, &c.; a most important precaution, that should never be neglected in removing trees above ten feet high.

19. Though shrubs are commonly planted for ornament, and trees to produce timber; yet there are other *products* by which they are occasionally rendered valuable. The leaves of some kinds are used, as those of the mulberry; the bark of others, as that of the oak and the holly; the flowers of others, as those of the rose and the syringo; the seeds or fruits of others, as those of the beech and the apple, &c.

20. The different products of trees are used by various artists and professions. The chemist uses the bark of some for bird-lime, as that of the holly; the bark of others is used by the manufacturer of mats, as that of the lime and the elm. The silk growers use the leaves of some, as those of the mulberry. The apothecary uses the blossoms of some, as those of the rose; the confectioner the blossoms of others, as those of the syringo. Bread is made of some seeds, as those of the beech. The fruits of others, as those of the pear, plum, &c. are in general estimation. Shipbuilders use some kinds of wood in particular, as the oak. The larch might also be trained for this purpose, by bending down the stem when twenty feet high, fixing it in that position, and rebending it again some years afterwards, leaving the trunk in a serpentine form, as will be elsewhere explained. House-carpenters use the fir and pine; mill-wrights the crab-tree; plough-wrights the ash; cabinet-makers, the beech, walnut, cherry, plum, box, holly, yew. The carver uses the lime; the turner the sycamore; the mathematical instrument-maker

the box and holly; the last and heelmaker the alder and birch. Iron-founders use charcoal of any kind. Gunpowder-makers use that of the dogwood, sallow, alder, and hazel. Turpentine and its oil are extracted from the larch and the silver fir. Resin, tar, pitch, and lamp-black, from the spruce and the pine tribe. Potash may be extracted from any wood, but principally from the beech, ash, and elm. Wine may be made of the sap of some trees, as the birch; sugar of the sap of others, as the sugar-maple, &c.

21. The *relative value* of timber depends almost entirely upon local circumstances. Oak and elm proper for ship-building, growing in the neighbourhood of a dry-dock, will be more valuable than if it were a hundred miles up the country. Undergrowth of dogwood, sallow, and alder, in the neighbourhood of a gunpowder manufactory, is of great value: but, at a distance, it can be used only as fuel, &c. There are, however, some kinds of wood that, from their universal application, are valuable everywhere; such as the oak, the elm, the ash, the beech, and to which may be added, as the most valuable, the larch. There are other kinds which, from their scarcity, are valuable everywhere, as the box, the holly, and the yew. The lighter products, such as birdlime, potash, turpentine, pitch, &c. may be reckoned equally valuable everywhere. The tree that would be most valuable in a particular situation, may not there

find a soil that accords with its nature. In this case, the tree that will come to the greatest perfection in that soil, will generally be found the most valuable. A wood, not valuable from local circumstances, may, by manufacturing it on the spot, in order to render carriage less expensive, be rendered much more valuable. From the general introduction of good roads and canals, and the spirit for increasing these, there can hardly be a situation, in which plantations will not be valuable for timber; and it is impossible to conceive one where the other products will not be of great value.—"Every person who can measure timber thinks himself qualified to value standing trees; but such men are often deceived in their estimates. It is the perfect knowledge of the application of the different shaped trees that enables a man to be correct in his valuation. A foot of wood may be of little value to one trade, but of great value to another. This is the grand secret which enriches the purchasers of standing timber*."

22. Every tree or shrub when full grown, is possessed of a number of qualities that produce similar emotions, and hence their *expression* or *character*. Thus, the cypress is of a uniform, unchangeable shape, and constantly of a dark green colour. It has a still, solemn appearance; and hence it has obtained the character

* Hunter's Evelyn's Sylva, p. 112.

of melancholy. There is a similar train of emotions, but in a fainter degree, produced in the mind by the falling branches, drooping spray, and yellow colour of the weeping willow. It suits with scenes of solitude, and leads to meditation. There is a degree of cheerfulness in the light, airy form of the ash, and the bright white of the variegated holly; ease and gracefulness in the festoons of virgins' bower; delicacy in the myrtle; and a peculiar elegance in the sweep of the stem and curve of the branches of the larch. The oak and the chesnut possess forms which have long been associated with grandeur and sublimity. These and many other trees are remarkably expressive of certain known characters. This arises partly from the nature of the trees, andpartly from secondary associations. The cypress and the yew have been planted on burial places; the weeping willow to shade urns; the Romans crowned their warriors with laurels; and the chesnut was introduced into the landscapes of Salvator Rosa.

23. *Accidental expression* in trees or shrubs depends generally upon their rarity or singularity of form. Thus exotics, when first introduced among indigenous trees, are easily distinguished from them, and are commonly denominated elegant, fanciful, strange, or novel; as was the Lombardy poplar and the larch, and as is now the China rose and the Acuba japonica. Some trees partly retain this character from their com-

parative rarity and very uncommon shape, as the creeping ash and the stone pine. Others have the character of elegance and novelty in a less degree, as the cedar of Libanus and the cypress; the hemlock spruce and the scarlet oak.

It deserves to be remarked, that accidental characters depend entirely upon novelty and rarity. Some trees, common in England, are seldom observed in the north of Scotland, and would there be denominated highly elegant, as the weeping willow, the narrow-leaved elm, or the accacia; others common and unnoticed there are esteemed highly elegant in England, as the *arbutus*, *uva ursi*, the *erica alles*, and even the mountain ash.

SECT. II. SOME TREES AND SHRUBS HAVING PROPERTIES DESERVING THE MORE PARTICULAR ATTENTION OF PLANTERS OF THE PRESENT DAY.

The general history and culture of the following trees and shrubs being well known, I shall only add some facts which have lately come under my own observation or experience*.

1. The ash.—The timber of this tree is chiefly used for the implements of husbandry, and in most places is next in value to the oak. It is, however, at present too much neglected everywhere. Those who now make plantations of this tree may reasonably calculate upon great profits at a future period, as no other species of timber can fully supply its place. As an ornamental tree, its nakedness in autumn and spring are against it; otherwise, in the summer months it is the most elegant and beautiful that adorns the verdant landscape.

* For an elegant and accurate description of the characters and uses of the various trees commonly cultivated in Britain, see "The Forest Walk, a Poem." This little work is excellently calculated for informing young people at a period of life in which *attention* and *observation* are most natural, and which thence indicates the proper mode of education. One acknowledged defect of modern tuition is, that at this period the mind is either stored with matter uninteresting to it, or directed to studies which require abstraction and reflection; while the open volume of nature is entirely neglected.

2. The Beech.—This tree is remarkable for its thickness of branches and foliage, which it throws out generally in great abundance from the ground upwards, even though crowded among other trees. This, and its quality of retaining its leaves all the winter, makes it particularly valuable in narrow plantations, for thickening woods, or concealing offensive objects.

3. The horse-chesnut will grow freely in a poor sandy soil, and exposed to the sea breeze; as may be seen at Tynningham and Tynefield. It will bear transplanting at almost any age. Its chief beauty consists in the recumbency of its lower branches as it grows old, and its conical clusters of white blossoms early in summer. Its fruit is excellent food for milch cows.

4. The larch.—Although much has been already said about this tree, it can scarcely be too much recommended for its utility, not merely as timber, but in every stage of its growth. At Kersehall, in the grounds of the author's father, a fence was made seven years ago of dead young larches, which had been rooted out of a plantation the year before. The main stems of the trees were not above an inch in diameter at the surface; but still the fence, including every little twig of these trees, remains at this day apparently as fresh as when it was put up.

Sir John Maxwell Heron informed me, that thirty years ago a barn at Springkell was roofed with larch wood, which is still perfectly fresh. The doors were also made of it, without being painted. Not long after they were made, a substance began to exude from them, which soon covered all their surface and closed up the joints. At present these doors present a brown mass apparently of one piece of wood, and so hard that a musket ball fired against it from a few yards distance does not make the least impression. A similar effect is said to take place with the roofs which are made of deal in North America*. An insect, the *coccus larixea*, made its appearance on the larch in the northern counties some years ago, and proved very pernicious in several instances. The tree has since been too much neglected; but as the plantations injured have now recovered, and are thriving well, it is to be hoped that this tree will soon resume its proper place in the estimation of Planters.

The qualities of the larch suitable for ship-building, as its resistance of fire and decay, its not being apt to splinter, &c. have been noticed by several writers. The form of the larch, however, is unsuitable for *some* of the purposes of naval architecture. To render it more suitable, pruning has been recommended by some; and, what is still less practicable, shading

* See Agricola's Observations on Timber Trees.

A mode shewn by which the Larch Tree may be made to grow of those shapes which are best suited for particular purposes, in Naval Architecture.

Fig. 1.

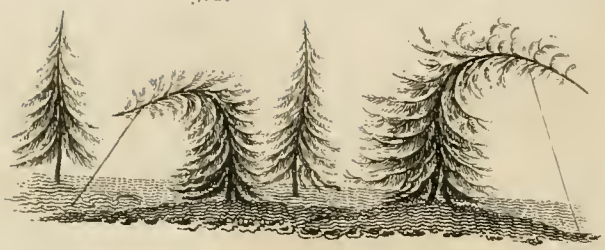


Fig. 2.

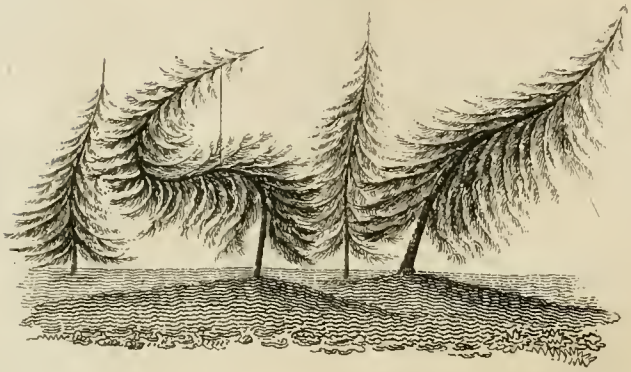


Fig. 3.

Fig. 4.

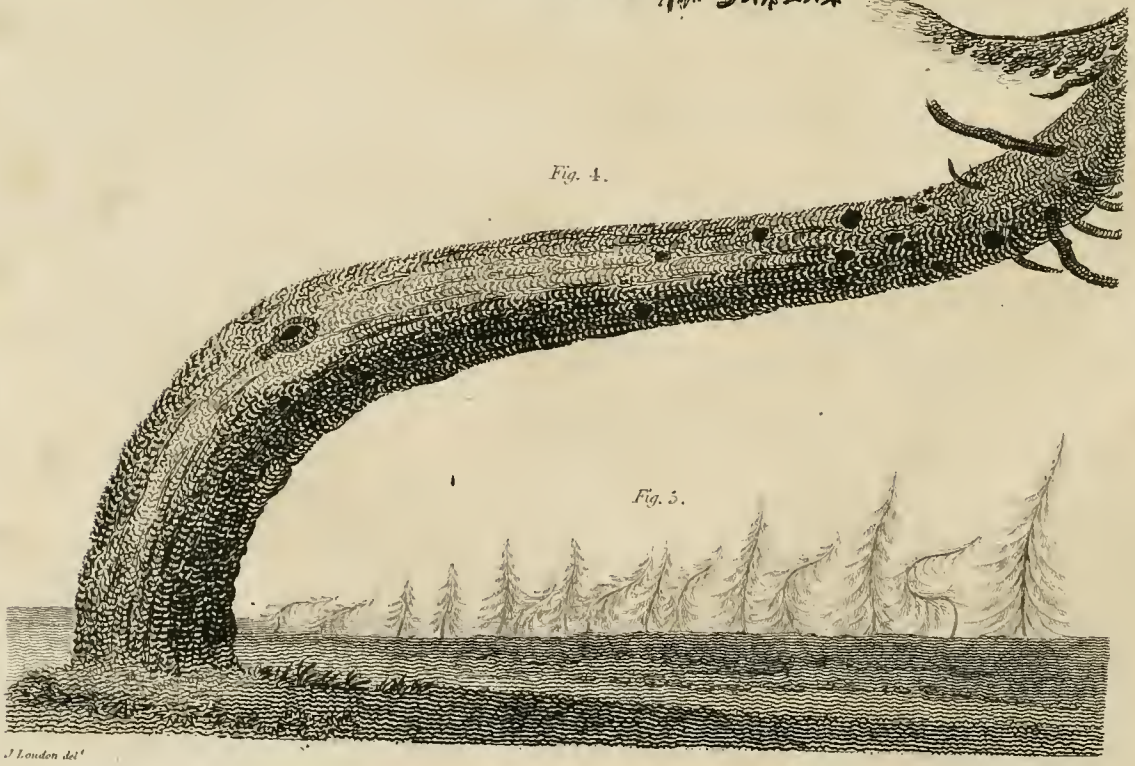


Fig. 5.

J. London del.

W. Wise sculp.

Published May 31 1808 by Longman, Hurst, Rees & Orme, Paternoster Row.

it, by others; but if we advert to its mode of growth (see page 44), we shall find that either of these methods would prove ineffectual. Pruning could not succeed, because in the larch and fir tribe one stem constantly takes the lead; and in this stem alone is contained the timber. Shade might produce a crooked enough stem; but in regard to strength, or timber produce, it would evidently be so deficient as to be totally unfit for naval architecture. I have recommended bending as preferable to every other practice; and as this may perhaps, at some future period, be deemed of public importance, I shall add a few remarks respecting the mode that I think ought to be adopted.

In the first place, suppose a plantation planted in regular rows, fifteen feet apart, and the same distance in the row; and grown from fifteen to twenty years. In bending them, begin with the first row, and let every other tree be bent down in different degrees, and tied to the intermediate one which remains erect, or to the ground, as shewn in Plate XIX. fig. 1. After having grown in that situation seven or eight years longer, it may be bent backwards, and either tied to itself, as in the middle tree of fig. 3, or to the tree on the other side, or to any of the trees around it, as may be found necessary. After the rope has held the tree in that situation for a few years longer, it will have an appearance something like fig. 2.; a form that will afford knee-

pieces, &c. which are of great use in ship-building, and always bear a higher price than any other form of oak timber. But every tree need not be bent exactly alike. Some need only be bent gently to one side; others more so, as fig. 4. This variation in the inclination of the trees, with those which should be left erect, would serve to produce proper shelter for the whole plantation, a section of which might appear as fig. 5. according to the purposes for which they are intended, or to the form most in demand. This experiment is certainly worth trying; and there is no great reason to doubt its success; for practice of bending trees is not new; it was recommended by Evelyn, and practised by the Romans in Virgil's time.—See *Hunter's Evelyn's Sylva*, p. 48. and *Georgic* II.

In planting the larch, for this, or any other purpose, the utmost care must be taken to choose a suitable soil, otherwise (as will appear in next section) the most dangerous consequences may ensue. But this tree, even when in a soil not too rich, grows to a large size, and soon arrives at maturity, and it is evident, that if the above method were adopted, the timber would be fit for building the largest ships fifty years after it was planted, and for building smaller vessels much sooner. There is abundant evidence, that it would grow to a sufficient size for this purpose in all the mountainous parts of the island; and Mr. Knight's experiments on the sap and wood of trees, as

well as common observation, prove, that the circumstance of bending, especially in an open exposure, would produce a much thicker trunk and a larger quantity of timber, in a given time, than a straight tree. These circumstances, in connexion with the valuable qualities of this tree as ship timber*, and the scarcity of that article in this country, lead me to suggest

* "The larch does not fly in splinters by the impulse of a ball in any engagement; no force of heat makes it flame; but when thrown into a strong fire it consumes imperceptibly. How many accidents then might be prevented by a greater use of this timber, if applied in ships. Many lives are lost by the splinters of oak in naval warfare: all these would be saved to the state by having the planks of war ships made of it. Decks of the same materials would resist fire, either accidental or designed; for, although burning materials in time will force their way through a plank of larch, yet it never would spread to the adjoining plank. To be in a ship on fire at sea, is certainly the most dreadful situation in which any person can be placed; every exertion, therefore, to prevent such calamity, is the duty of all well-wishers of their country. Beside these advantages arising from the use of the larch, there is another of no small importance to a warlike and commercial nation, the saving of expense in ship-building; as by experience it is found that it lasts longer than oak under water, and worms will not touch it*. In place of renewing ships of war every twenty or thirty years, their existence may be lengthened to thrice that time."

See ANDERSON'S *Catalogue of Trees*, page 6.

The following quotation from Vitruvius demands the particular attention of those concerned in naval as well as in civil architecture:

"The larch tree, which is unknown except to the inhabitants about the Po, and the shore of the Adriatic sea, is not only preserved from the rot and worms by an excessively bitter juice, but is also secure from fire; for it will not flame, but will

* Sailors put larch chips among their clothes; which has been found by experience to prevent vermin, mould, &c.

the propriety of devoting a few hundred acres of the national forests to the cultivation of the larch, either bent

only consume to a calx, as stones, &c. in the furnace, by the means of other wood; nor will it even then burn and become as a coal, but slowly and after a long time will be consumed. The reason is, because it has in its substance very little of the elements of fire and air; but with water and earth it is replete; and it has no pores by which the fire may enter to dissolve its texture. This wood will not soon decay; and on account of its ponderosity water cannot sustain it; so that when it is to be transported, it is placed either in vessels or on rafts of fir. The first discovery of this timber happened thus: When the army of the deified Cæsar was near the Alps, he commanded the inhabitants to shew him a safe passage and to conduct him over those mountains; there was a fortified castle, called Larignum; and those that were therein, confiding in its natural strength, refused to obey his command. The emperor, therefore, ordered it to be attacked. Before the gate of the castle was a tower, constructed, like a funeral pile, with beams of this wood placed alternately transverse; from the top of which they annoyed the assailants with stakes and stones. When it was observed, that they had no other weapons than wooden darts, and that they could not throw them far from the walls by reason of their weight, orders were given to approach with faggots and burning fascines, and pile them against the tower. The soldiers quickly obeyed; and the flames from the faggots ascending to a great height round the tower made it believed, that the whole mass was consumed; but when the fire abated and was extinguished, the tower appeared unhurt. Cæsar, struck with admiration, then ordered it to be assaulted with the missile engines; upon which the country people, being affrighted, surrendered. It was then demanded of them, where this timber, which remained unhurt by fire, grew; and they shewed these trees, of which in that place there is great abundance. From the castle of Larignum, therefore, this tree takes its name. This timber is brought by the river Po to Ravenna, to supply the colonies of Fano, Pesaro, Ancona, and the other municipal cities in that district: if it could conveniently be brought to Rome, it would be of great utility in building; for in case it could not be used in all parts, at least it might be disposed in the projections about the eaves of the insular buildings, and thereby greatly contribute to secure them from the danger of fire; for this wood will neither flame, nor will it burn like a coal." NEWTON's *Vitruvius*, page 40.

in different ways, or even allowed to take its natural form. The original expense of planting and inclosing five hundred acres would not exceed a thousand pounds, and the annual expense afterwards would be but a trifle. The culture of the oak ought not to be in the least degree neglected; but when it is considered that this tree takes two or three hundred years to come to perfection, and the larch not above half a century, adverting at the same time to the approaching scarcity of oak timber fit for the navy, these remarks surely merit attention from the legislature.—*See the Reports of the Commissioners*, &c. page 21.—*See also* EMERICH's *Culture of Forests.*

5. THE LABURNUM.—It is a fact not sufficiently attended to in practice, that nurserymen possess two species of this tree. They are both in common use, but so much alike when young,

The excellencies of the larch have been more fully noticed than that of other valuable trees; not only from their superiority, but also because an insect, which for some years past has infested this tree, has greatly limited the quantity annually planted in Scotland and Wales. But those planted from thirty to fifty years ago have in every situation grown to large timber trees, hundreds of which may be seen in many parts of the country, from one to four feet diameter. This shews that the soil and climate suit the tree, and that the insects have been produced from some other cause (probably from the alternate wet and dry years, and prevailing east winds which in 1800-1 and 2 at least greatly increased them). At any rate, no accidental evil, for defect it cannot be called, ought to lessen the attention to, or prevent the universal culture of, this tree.

that they are not generally distinguished. The difference is obvious when the foliage and small twigs or spray are compared; that of the English laburnum being much smaller and more delicate than the Scotch *, and hence it is in general more fit for shrubberies. The Scotch is of very large growth, and excellently calculated for poor gravelly soil, rocky banks, or rocky margins of water. In the two last situations they may be seen in considerable perfection at Southwick.

6. The Norway maple grows freely under the shade and drip of other trees. In autumn it assumes a beautiful yellow colour. It is altogether a much more graceful tree than the common sycamore; and in most cases, particularly where ornament is a consideration, it ought to supersede the planting of that tree. Exemplified at Foxley, Scone, and Croome Park.

7. Poplars.—The *Lombardy* poplar is esteemed the most profitable tree that can be planted in several parts of the west of England; particularly in Shropshire, where it is erroneously called the Italian poplar. When introduced sparingly, and in particular circumstances and situations, as near buildings, or backed by other trees, it is highly ornamental. When opposed to the sky, it has commonly a meagre effect. The peculiarity

* See Hanbury.

of its shape may be varied at pleasure, by placing scandent plants or creepers near it, which may climb up among its branches, and hang round it in irregular masses. At Foxley, several of these trees may be seen varied in this way with an excellent effect. The *Carolina*, *Canadian*, and *Hoary* poplars, are trees of very agreeable forms. In a tolerably good soil, they grow with great rapidity; frequently upwards of six feet in a season, and seldom less than three or four feet, until they become twelve or fourteen years of age. In forming a residence, they may in most cases be used with great advantage; as they will not only shelter the other sorts of trees, but give the whole estate or park a wooded appearance within a year or two after planting. See Plate XXX., the trees in which, near the house, are chiefly poplars. The hoary poplar, in this respect, is particularly to be recommended. Its effect may be seen to advantage in some small places near Edinburgh, though it has not been long known. The Canadian may be seen at Foxley, and the Carolina at Ludlow in Shropshire. I have taken advantage of these facts, in rather singular circumstances, at Barnbarrow and Machany.

8. The Scotch elm *(ulmus campestris)*, in most parts of England called the witch elm.—This tree deserves a place in almost every wood where ornament is any object; besides being nearly as valuable as the ash. It grows freely under the

shade and drip of other trees; and though it does not produce large and thick masses of foliage, yet it shoots its twisted side-branches horizontally across the naked stems of others—groups with them, and destroys their formality. What adds greatly to the effect of the Scotch elm, when in these circumstances, is a species of black moss which infests its branches in almost every situation, but here with great luxuriance favoured by the shade and drip of the other trees. These remarks are strikingly exemplified at Heckfall, near Rippon; at Foxley; Loudon Castle, and many other places.

9. The elder is propagated in a similar manner with the willow, and with equal ease. It will thrive on the tops of mountains *, or endure the most severe sea breeze; as may be seen all along the east coast of Scotland. At the villages of North Berwick and Preston Pans are excellent elder hedges, from four to ten feet high, within a few feet of high-water mark. This is a fact of great importance to those who have *downs*, or tracts of barren sand near the sea; for, being in possession of this fact, they may inclose and shelter them with little expense. Many acres of this kind of ground exist along the coast in every quar-

* There is a signal station on the summit of North Berwick Law, which is 800 feet above the level of the sea. The keeper, from the shelter of an elder hedge, has made for himself a small but prolific kitchen garden, where before stood only a few elder bushes, stunted and almost destroyed by sheep.

ter of the island. Near Dunbar are several thousand acres; and there, at Linkhouse, advantage was taken of this fact under my direction in 1804. Several long lines of hedges were planted, by simply inserting elder cuttings along the edge of a ditch fence. Where an elder fence is to be made round a garden near the sea, ivy may be planted along with it; which will make a very thick evergreen hedge, as may be seen in the garden of New Passage Inn, Monmouthshire.

10. Evergreens.—Most places are deficient in this species of trees and shrubs, which deserve to be very generally planted, both for their uncommon beauty in winter, and for their contrast with the yellow and russet tints of deciduous trees in autumn and spring. They ought generally to be the prevailing trees near buildings, and particularly the mansion; both for the reasons given above, and because they conceal a part or parts of the edifice, disguise the real extent, and thus blend them at all seasons with the surrounding scenery. The superiority of their shelter and shade is another argument in their favour.

11. The Scotch fir deserves to be ranked among the first evergreens, from its uncommon picturesqueness, and the ease with which it may be grown in almost any situation. No tree, however, has been more spoken against by several writers; but any person who has seen the old Scotch firs at Thrickleby and

Langhangles, and the young trees of the same species at Southwick and Blair Drummond, will fully agree with these remarks. The truth is, that the objections made to it have not arisen from the tree itself, but from improper management, and chiefly from the neglect of thinning. In these circumstances, it "in murky file rears" an "inglorious head, and blots the fair horizon." Where ornament is an object, the operation of thinning ought to commence when they are very young, and be carried on freely until they are twenty or thirty years old. The farther apart these trees are removed from each other, so much more picturesque will be the forms which they will assume. It is an admirable tree for planting near ruins, castles, and all gothic and irregular buildings; as may be seen at Warwick Castle; where, as also at Clermont and Corby Castles, it mixes beautifully with exotic evergreens, as laurel, box, privet, holly, and arbutus, which, when the trees are sufficiently thin, grow freely under their shade.

12. The cedar of Lebanus.—In England this tree ought to be planted as universally as possible, and particularly near Grecian buildings, with which it accords better than almost any other evergreen: for the stone and cluster pine do not in general live long in this country, as may be seen at Welbeck and several other places. It delights in a moist soil.—*See* Pallas' *Travels in Siberia.*

13. The hemlock spruce, like several others already mentioned, grows perfectly well under the drip and shade of other trees, and preserves its recumbent branches to the ground. It is, therefore, of great value in ornamental scenery; as when richness and massiveness are required in a narrow strip of planting*.

14. The cypress is too seldom planted, and particularly near buildings, to which it gives a rich classical appearance; as may be seen at Foxley and Yoxal Lodge.

15. The holly ought to be more planted than any other shrub; for no other is capable of producing such an excellent and diversified effect in woody scenery; as in Needwood Forest.

16. Evergreen oaks are commonly propagated by grafting on the common oak. Hence young oaks, or part of any oak copse in woods, might be *headed down* and grafted with them, which would make a beautiful species of undergrowth. This was suggested to me by Mr. Price, who intends to put it in practice next season at Foxley.

17. The ivy deserves to be more frequently grown for three purposes: 1. For varying the stems of single trees and small

* For the character, uses, and culture of upwards of thirty species of pines, well deserving attention, see Mr. Lambert's elegant work on the genus Pinus.

groups; for giving effect to an old decaying tree; for rendering an ugly tree interesting, and such-like purposes. Where a number of trees of the same kind, and very much alike, are in a foreground, one or more of them may be varied by ivy, perhaps with as good an effect as by pruning, and better than with any species of deciduous climbers.

2. For varying, but not entirely concealing, cottages, ruins, and irregular buildings, whether new built or antiquated. Many old houses, the external appearance of which it might be too expensive or difficult to new model or decorate in masonry, might be highly and richly decorated by simply planting ivy, and training it to cover in different places. The expense of building would frequently be much less, if the external appearance were contrived to admit of ivy; which would not only vary the general mass, but might sometimes supply the place of window labels, string courses, cornices, and even of projections, towers, turrets, and buttresses. This last remark is exemplified at Wallace's Tower, Ludlow Castle, Downton Castle, Storton Castle, and several old ruins in Wales and Scotland. See also Plate VIII.

3. To the third purpose I would beg the particular attention of proprietors in the north. It is, to plant ivy against stone walls, dykes, or sunk fences between fields; which it will not only render highly ornamental, by chequering their sides with

shades of green, and little ribs or columns, like the spandrils in gothic architecture, and richly mantling their tops; but will also contribute materially to their durability. Walls built without mortar would be strengthened by the ivy passing through the crevices and clasping the stones on all sides; as may be seen at Barnbarrow and Castlewig; and in mortar walls, by its preventing the action of the weather, the same effect would follow. The advantage of ivy in this respect I observed lately at Ludlow Castle; where part of the surface of a large tower, from which the ivy had lately been cut down, appeared in so much better preservation than the other parts of the castle, that it seemed comparatively a piece of modern masonry. That it will have the same effect upon mortar walls in fields, may be seen on a wall by the side of the road between Chepstow and New Passage. At Belvue and Roslin Castle, near Edinburgh, it is exemplified on sunk fences, and other low walls in moist places.

Almost the whole of Scotland, and particularly the western counties, would be greatly improved in beauty and shelter by thus using the ivy. There is no exposure nor any soil in which it will not grow and prosper, if carefully planted: but a good deal depends upon this operation; most people stick in a small branch possessing only the fibres by which it fastens itself to other bodies; but in clayey or wet soils this method will not

succeed: the plants ought to be gathered, well rooted, from moist ground in woods, where it is frequently found creeping on the surface; or seedlings should be procured or raised, which will thrive better than any other mode. When it is intended that ivy should grow upon the trunks of trees exposed to cattle, the plants should be obtained of considerable length from woods. When planted, it should be twisted round the stem of the tree and tied to it. In one season it will have an effect. Cattle will not eat it; and no fence will be requisite, unless there are so few trees in the inclosure as to endanger their rubbing against it. In particular situations the ivy may be used to thicken hedges.—*See* ELDER.

18. SHRUBS.—As the mind, after contemplating a whole, recurs to the parts, and examines them in order to find a continuation of pleasure; so after having taken a general view of a place, and explored most of the compositions or remarkable views, the female spectator or visitant at last amuses herself chiefly with the beauty of the shrubs and flowers near the house. For the truth of this remark, which to some will perhaps appear rather problematical, I need only appeal to the feelings of those ladies who live most of the year at their country seats. The weather is not always suitable for taking an extensive ride or drive to examine landscapes; but few days occur in which an excursion is not made to the shrubbery, the

American ground, or the flower garden. Hence the invention of pleasure gardens, the attention paid to them, and the origin of the conservatory. One of the most effectual ways of rendering these scenes still more interesting than they generally are, is by introducing a greater variety of shrubs; many beautiful sorts of which are frequently unknown to those who order from the nursery; and hence, not unfrequently, either the most common sorts only are planted, or others not suitable to the situation, soil, or climate. It is not to be supposed, that beautiful specimens of each kind of shrub are to be met with at any single place. But from different places, in various quarters of the island, there is abundant evidence that the whole list, to be had in this country, will prosper in our climate, and assume very fine forms, which from their variety are valuable and interesting. But while I thus recommend the introduction of shrubs into certain kinds of pleasure grounds, let me caution the gardener against planting them in the usual manner; viz. by mixing all the sorts indiscriminately together in every part of the scene*.

* Nothing can display a greater want of judgment than the practice of those gentlemen who get only a general plan from a professional person, and then send for a nursery-man to fill up the plantations or shrubberies with trees. How is it possible that any plan can be executed agreeably to the artist's ideas by such a practice? Yet this always takes place where artists, ignorant of trees, give in ideas for improvement: such as drawing-masters, painters, architects, and such professors of art as Mr. Repton.

SECT. III. OF THE EFFECTS OF CULTURE ON TREES, IN REGARD TO CHARACTERISTIC BEAUTY AND TIMBER PRODUCE.

It is remarkable, that this subject has never specifically engaged the attention of those who have written on planting. The effects of culture on other vegetables is so great, as always to change their appearance, and often in a considerable degree to alter their nature. The common culinary vegetables, and cultivated grasses, assume so different an appearance, in our fields and gardens, from what they do in a state of wild nature, that even a botanist might easily be deceived in regard to the species. The same general laws operate upon the whole kingdom of vegetables; and thence it is plain, that the effects of culture upon trees, though different in degree, must be analogous in their nature. It is true, that we are as yet possessed of no great number, either of experiments or observations, to enable us to determine, with minute accuracy, the precise extent of these effects; but still a person practically conversant with the subject, who shall pay attention to what he may observe taking place in different parts of the country, and who possesses a sufficient knowledge of the vegetable kingdom and physiology to reason

from analogy, may deduce such general consequences as will suggest important practical rules.

It may be proper to observe, that by culture I do not mean merely the operations upon the soil, or even on the form of the tree; but every thing that tends to remove it from its natural state in order to accelerate vegetation. I consider also, that a tree is in a natural *state* wherever it has sprung up fortuitously and propagates itself without aid from man; whether it is in crowded forests, woody wastes, or in scattered groups on hills or commons*. Now it is known to every one in the least conversant with the vegetable economy, that in all herbaceous vegetables, and even shrubs of considerable size, the effect of removal to an improved soil, climate, and situation, is to expand the parts of the whole vegetable; that the effect of removing or cutting off part of the vegetable above

* Some trees and other vegetables may be said to be naturalized to situations, which, but for art, they probably never would have grown upon. Thus we sometimes find mountain plants common in plains, and even meadows; and alpine trees which disseminate themselves in level and warmer parts of the country: but then the botanist, by comparing the effects of these different situations on the vegetable, always knows to select as general nature that which perfects all the parts, and where the soil and situation are best suited for the reproduction of the species, and the prolongation of individual life. These rules are founded in nature. For example: no person, judging from them, could mistake a warm English common as the natural soil and situation of Scotch firs, though they frequently disseminate themselves there.

ground is to expand those parts which remain: that the effect of removing any of the parts under ground, or, of removing the whole vegetable into a colder climate and a less congenial soil and situation, is to contract or consolidate the whole. This, were it necessary, could be illustrated in a thousand instances from the commonest vegetables: but I only notice further at present, that this takes place more or less in a degree corresponding with the rapidity of the growth of the vegetable, and its duration. Thus all the annual grasses are much further removed from a state of nature by culture than the perennial ones. So are the annual garden vegetables, as cabbages, legumes, and spinach, in opposition to strawberries, asparagus, &c. Quick growing trees or shrubs, as willows, raspberries, &c. are also much easier removed from their natural state, than such as oaks, thorns, hollies, and heaths, which grow much slower.

If the foregoing remarks are just, which I think none will deny, it must follow, that the same general effects take place more or less on all trees; that when they are removed into a colder climate, or have part of their roots cut off, it will in some degree contract the fibre of the wood, and render it of a more solid and hard texture; and that when they are removed into a warmer climate, have most of their branches taken off, or are placed in a better *state*, it must, by accelerating their growth,

tend to expand the fibre of the wood, and of course render the wood softer and more liable to suffer by the action of the common elements when the tree is cut down and applied to use. That this does really take place, will, I believe, be gathered from the following detached facts which have come to my knowledge, and to which every practical and unprejudiced reader, who has visited different parts of the kingdom, will be able to add many others from his particular observation.

1. Every hedger and forester knows, that furze, and thorns, which have been cultivated in fields or hedges, are of a much softer or wider grain, and are much easier cut over with the hedge-bill, than such as spring up from seed in wild scenery, and never undergo pruning or any species of culture. They know also, that in a common to be cleared of furze or thorns, or in a hedge to be cut over, there are some parts which require a much slighter stroke of the hedge-bill than others; and that those parts easiest to cut are uniformly those where the plants have grown quickest—Gardeners experience the same thing in pruning or cutting over fruit-trees or shrubs *. In all these cases, the stems of both are supposed alike in diameter and cleanness, or absence of knots; though the same thing would

* The difference between the texture of the cultivated and the wild raspberry is striking, though the stem of the one is near double the thickness of the other.

take place in a considerable degree even if the stem of the cultivated or quick growing one were thicker than that of the other in the wild state. Supposing that we had no other proofs, this clearly shews that cultivation, or whatever tends to increase the growth of a tree, tends also to expand the vegetable fibre. But there are other concurring proofs, which demonstrate this, and at the same time shew, what few I suppose will doubt, that when the vegetable fibre is expanded, or when the annual ringlets or circles of wood, produced by a tree, are soft and larger than the general annual increase of such tree, the timber must be less hard, and more permeable by air, water, heat, &c.

2. It is well known, that the common oak in Italy, where it grows faster than in Britain, is comparatively of short duration. And that the oak which grows on the mountains, in the Highlands of Scotland, is much harder and closer than any produced in England; though on these mountains it seldom attains one-tenth part of the size of English trees. Every country carpenter in Scotland knows the extreme difference between the duration of Highland and English oak for spokes to wheels. Many hedge carpenters in both countries know the relative duration of transplanted or *plantation oaks* (that is, young oaks thinned from thriving plantations) and those from natural forests, when employed as posts for railing. From different observations which I have made in Monmouthshire and Herefordshire, the

duration of the oak in these countries, is much inferior to what it is in Cumberland and Yorkshire; I think I do not exaggerate when I say that the difference is as eight to ten. I know some timber-dealers who in purchasing pay attention to the difference of soil and situation even in the same wood. When they can find oak in exposed situations and on deep clay soil, and ash on rocky steeps, they always give them the preference.

3. I shall state a known fact, which I request the reader to contrast with what I have stated in the preceding section respecting the larch. It is of such importance, that, I trust, if it does not satisfy every unprejudiced mind respecting the truth of the general principles which I wish to explain, it will at least arrest the attention of all who are interested in the quality as well as the mere bulk of timber: and this may lead to more extensive observations, and perhaps more favourable conclusions.

The plantations of the late Sir David Carnagie, at Kinnaird Castle (made 1770—90) are well known in the north of Scotland. They were chiefly of deciduous trees, among which were generally introduced larches for shelter. These larches in some places grew with astonishing rapidity. On many slopes where the surface soil was good, though not deep, and the subsoil a sandy gravel, they advanced upwards of five feet a year, for the first

six or eight years after planting. As they overtopped and crowded the deciduous trees, they were gradually felled; and, as much had been said about the durability of larch wood, the first trees that were cut down were sawn up, and applied to a purpose, which was perhaps one of the best tests of their durable properties. This purpose was the footpaths of peach-houses and vineries, where they are exposed to alternate drought and moisture, heat and cold, and where common deal and other kinds of wood had repeatedly failed. The larch deal of these trees was applied in the same way as the others, and in less than two years was completely rotten!

It may be alleged by some, that this could only hold true with the *sap* or last formed wood: but the *heart* or red central wood which was present, though it lasted longer, did not endure three years!! The immense number of these trees annually taken down, were after this chiefly used for fuel. Vitruvius and other authors inform us, that the wood will not flame, but will only consume by the assistance of other wood. Here it did not flame violently; but it burned by itself, without any care or attention, and with no assistance from other timber, and produced sufficient fires for the ordinary purposes of near thirty labourers' families, on Sir David's farms and in the woods. In preparing these trees for the fires, the workmen found it so brittle, that they often could break a tree of a foot diameter

with the greatest ease, by giving it two or three blows with the back of the hatchet. Their tops and side branches, were also remarkably brittle, and light*.

These are facts which deserve a very serious attention, and lead to very important conclusions, respecting the cultivation of this tree in Great Britain. They are not solitary; for though, as yet, sufficient time has not elapsed for a fair trial of this wood in different soils and situations, yet some have found it much less durable than others; and an attentive observer will perceive larch trees in some rich warm situations in a decaying state (as at Barnbarrow, Croome, &c.); and others growing so rapidly, or so much pruned (as at Woburn), as to suggest doubts, whether their duration will be much longer than those of Kinnaird Castle.

4. In Scotland, the difference of durability between common fir wood, which has been of slow growth, and that which has been *forced* (as they call it) either by shelter, advantageous soil, situation, or climate, or by lopping off the side branches, is known to every carpenter in the northern parts of it, particu-

* These facts are known to many gentlemen in the neighbourhood of Montrose. In London they are perfectly known to A. B. Lambert, Esq. Vice-President of the Linnæan Society. Mr. George Jackson, his librarian, indeed, was eye-witness to them in 1799.

larly in Perthshire, Stirlingshire, and Argyleshire. There, "they distinguish the wood cut in the native forests, from that obtained in plantations, by calling the former highland fir, and the latter park fir. The highland fir is most esteemed on account of its greater durability, being frequently found undecayed in ancient buildings when the other sort is entirely wasted *." This may be daily seen in Aberdeenshire, Banffshire, &c. during the removal of old farm-houses and cottages; wherever a piece of the highland fir appears, it is always of a much deeper yellow than the park or low country fir. At Gogar some large fir trees were taken down in 1795: they grew upon a deep cold loam; the wood was sawn up, and was found of excellent quality. About a mile from this, at Lenny park, a dry bank is covered with fir trees of greater age than those at Gogar, some of them have been taken down at different periods before and after that time, and have uniformly been found of inferior quality. In 1804 a number of fir trees were taken down from

* I am happy in being able here to quote my sentiments from the highest authority, viz. "LAMBERT *on the Genus Pinus*," page 84. In the same page it is said, that "this striking difference," between the highland and park fir, "is probably to be attributed to the mountainous and rocky situations in which the native timber is found, and where, the trees being of slower growth, the wood is consequently of a harder texture." Mr. Lambert is of opinion, that few species of pines will endure more than forty years in the soils in which they are commonly planted in England. Indeed, there are many proofs of this from Croome, Kew, and other places; though there are some excellent fir trees at Langhangles, where the soil is deep and cold, that are much older than that period.

the rocky banks of the Almond between Craigie Hall and Cramond House; and they were found of excellent quality. At Bevelaw there are extensive plantations of fir trees, which have been often thinned; but the trees have grown so fast, and have been so much pruned, that they never last long as paling. All these cases have come under my particular notice and that of a relation of mine, Robert Karlaw, Esq. who, being highly interested in the value of park fir, has paid a more than common attention to the subject. Numberless instances* might be added to the above, but I trust it is needless. Any person who shall take the trouble to examine the fir woods at Gordon Castle, and contrast them with others in Perthshire and those in England, will unquestionably come to these conclusions: *that slow growth is essentially necessary to the durability of fir timber; and that wherever the accumulation of wood has been accelerated by culture of the soil, improvement of the climate, or by pruning, it is injured in quality in proportion to the ratio in which these agents have been employed.* I do not say, that no branches should ever be cut from fir trees; but I am certain that judgment will direct to cut off *generally* only such as indicate that they are no longer of much use, which is easily discovered by marks of approaching decay.

* By comparing the wood of the common crab (the father of our orchards) with that of the cultivated apple, what I am endeavouring to prove in this section will be evident to every candid mind.

5. Though a great deal more might be added from known facts which have come under my own observation, or which I have collected from several parts of the country, I shall only offer, in connexion with the above, a few remarks on the effects of *pruning* on trees. The general effects I have already stated to be of a corresponding nature with culture; that is, to increase the quantity of timber produce. The particular manner in which it does this, is by directing the greater part of the sap, which generally spreads itself in side branches, into the principal stem. This must consequently enlarge that stem in a more than ordinary degree, by increasing the annual circles of wood. Now if the tree be in a worse soil and climate than those which are natural to it, this will be of some advantage, as the extra increase of timber will still be of a quality not inferior to what would take place in its natural state; or in other words it will correspond with that degree of quality and quantity of timber which the nature of the species of tree admits of being produced. If the tree be in its natural state, the annual increase of timber occasioned by pruning must necessarily injure its quality, in a degree corresponding with the increased quantity. If the tree be in a better climate and soil than that which is natural to it, and at the same time the annual increase of wood be promoted by pruning, it is evident that such wood must be of a very different quality from that produced in its natural state.

Now though it might be shewn in some degree from vegetable anatomy, and analogy from what takes place in herbaceous vegetables, I prefer deducing from the facts already stated this proposition: *that whatever tends to increase the wood in a greater degree than what is natural to the species when in its natural state, must injure the quality of timber.* Pruning tends to increase this in a considerable degree; and therefore it must be a pernicious practice in so far as it is used in these cases *.

6. Mr. Knight † has shewn in a very striking manner, that timber is produced, or rather that the alburnum or sap-wood is rendered ligneous, by the motion of the tree during the descent of the true sap. It is also sufficiently known to all who have attended to the physiology of vegetables, and greatly confirmed by some experiments recently read to the Royal Society ‡, that

* In this Section I never consider pruning in regard to eradicating diseases, preventing injuries, or increasing the natural character and tendency of trees. For these purposes it is of great advantage.

† See Phil. Trans. for 1803—4. MIRBELL's *Anatomie et Physiologie Végétales. Tom. I. art.* 6.

‡ These experiments were also made by Mr. Knight. I hope they have convinced that ingenious philosopher of an erroneous supposition in his Remarks on Fruit Trees, published some years ago; which is, that the tree produced by a graft taken from one in a state of decay will live no longer than the parent plant. If in these last experiments Mr. K. could reason by analogy from potatoe plants to fir trees, certainly reasoning of the same nature from the propagation of decaying carnations, rockets, wallflowers, &c. by layers and cuttings, to the propagation of decaying fruit trees by grafts, is equally fair. We are certain that the former live long after the parent plants, why not also the latter?

the solid texture of the wood greatly depends upon the quantity of sap, which must necessarily descend, and also on the slowness of its descent. Now both these requisites are materially increased by side branches, which retain a large quantity of sap, and by their junction with the stem occasion a contraction and twisted direction of the vessels, which obstructs the progress of the juice. That this is true in fact, is well known to those accustomed to make wine from maple or birch trees; for in this business it is found that those trees which have fewest side branches bleed more freely than the others, but during a much shorter space. These hints, therefore, afford additional evidence against pruning, and particularly against pruning fir-trees, which, as Mr. Knight justly observes, have larger vessels than most others; and therefore, when in an improved soil and climate, side branches for the purposes above mentioned are essentially necessary, if solid, resinous, and durable timber be the object in view.

From the foregoing remarks, I think, the following conclusions may be drawn respecting the management of trees:

1. That trees should be planted as much as possible in soils, situations, and climates, analogous to those of their natural state: and that it is chiefly in this state or where there are some defects relative to it, that pruning and culture can be exercised with advantage.

2. That in proportion to the superiority of the soil, &c. in which trees are placed, over the natural soil of these trees; in the same proportion pruning and cultivating the soil ought to be avoided, and thinning encouraged.

3. That particular regard should be had to the soil and situation, where either larches, or any of the pine tribe, are planted to remain as the final crop: for as the roots of these chiefly run along the surface, and as in them the great current of the sap is chiefly confined to one channel, that is, the trunk, consequently that tribe of trees is peculiarly liable to change when subjected to unnatural agency.

4. That the only way in which oak timber of *safe quality* can be provided for the British navy is by inclosing, preserving from cattle, and properly managing, those royal forests where oak is the natural produce of the soil.—Alas! there is reason to fear, that on some future day the neglect of this advice will be regretted. Park oak is very frequently much inferior to forest oak in durability.

5. That as the practice recommended tends to render trees characteristical of their peculiar species, it must consequently be the most agreeable to ornament, or the principles of natural taste.

If I have been more diffuse in this Section than the *general* way in which I have all along treated my subjects will justify, it is because this branch of planting appears to me to have been entirely overlooked by practical men, who seem in general to consider culture and pruning with no other reference than to the increase which it produces in the *quantity* of timber. It is far from my intention to discard either of these practices (and not in the least pruning for the removal of diseases, accidents, injuries, the increase of character, or when the trees are young, as will appear in the succeeding chapters); but if solid and *durable* timber be the object, it ought to be practised with caution and discrimination. I consider it particularly necessary to offer these considerations at present, as some proprietors and writers, are patronizing a practice which I am fully persuaded, if persisted in, will be attended with bad consequences. Every attempt to rouse the attention of this country to the propagation and improved management of such an important article as timber, is highly commendable; but an indiscriminate universal recommendation of any practice, without a full consideration of its effects, is highly unphilosophical; and in the case of pruning, which is particularly alluded to here, is likely to be attended with consequences the more dangerous, as they cannot easily discover themselves until it be too late to apply a remedy.

CHAPTER III.

OF THE PRINCIPLES OF OPERATING WITH TREES SO AS TO EFFECT THE OBJECTS IN VIEW.

SECT. I. OF THEIR ARRANGEMENT AND DISPOSITION, SO AS TO PRODUCE VARIETY OF FORM.

THE intention of the preceding Chapter was, to shew that there is an inexhaustible fund of variety in trees and shrubs, both with regard to beauty and use: I shall now make some observations respecting their arrangement in artificial scenery. And it may be premised here, that those who understand the general arrangement of vegetables in nature, will easily discern and follow the proper mode; but, on the contrary, those who are ignorant of these principles, although they may know every tree and shrub, will wander in darkness, and produce confusion and incongruity.

All ornamental plantations may be divided into two kinds; those where *grandeur* is the effect to be produced, and those

where *variety*, or *beauty*, is the principal object. As grandeur depends more upon the whole than upon the parts, it may be produced where only one kind of tree is used; but as variety depends upon the parts alone, many different kinds are necessary. This has given rise to a most erroneous opinion and very pernicious practice among landscape gardeners and planters. Imagining that variety is produced by mixture, their rule is, to "mix as many kinds together as they possibly can, and never to let two trees of the same species be seen at once." This is their recipe for variety in plantations; which they follow as far as possible, in every arrangement of vegetables, from the parterre to the forest. But does it produce variety? No: on the contrary, it produces the most distracting incongruity. The eye, in examining the parts, finds no connexion —no harmony—no relief—no repose of effect—no difference of composition, nor change of character: or, if from a distance we look upon the surface of such a wood, it is, from the indiscriminate mixture of forms, more dull and monotonous than if only one species of tree had been used. Its outline against the sky is a mere unvaried zig-zag line; which, except in artificial plantations, is not to be found in the whole range of nature.

This mixture is evidently produced by their ignorance of that which constitutes variety; for it does not, as they imagine,

consist in the diversity of separate parts, but "in the diversity of their effects when combined together; in a difference of composition and character*:" very different from the other is the effect of such a variety; it relieves the eye, and interests the mind, without fatiguing either.

In forming a plantation with a view to variety, instead of selecting such trees and shrubs as are of opposite character, those differing in the slightest degree are in general much better adapted to the purpose.

The upright, spiry *form* of the larch, mixes very ill with the round head of the oak. But by chusing trees of intermediate forms, and placing them in the interval between these extremes, a natural connexion and gradation will be produced. By this means, with the store of trees and shrubs which we possess, an endless source of variety in woody scenery may be had from the forms of trees and their modes of growth, independently of any other material of landscape.

There is another source of variety which arises from grouping, or the manner in which trees are disposed, more than from the number of distinct species.

* Price's Essays.

This is chiefly applicable to extensive plantations, where the general character is grandeur; as woods, groves, and forests. It is produced by mixing together tall and low growths; planting irregularly, sometimes very close, at other times very wide; —by pruning so as to expose trunks, stems, or branches, in some places, and to conceal them in others, &c. Much of the effect also depends on the diversity of age in the low growths, as well as the difference of magnitude and accidental form of the trees.

This kind of variety exists in the greatest perfection in natural forests; and the true way to study its principles is, to observe in them the effects of time, accident, the browsing of cattle, the felling of timber, and other circumstances. By this means we shall be enabled to transfer the same effects, sometimes by different, and sometimes by similar methods, to artificial plantations. Natural forests cannot be too strongly recommended to the examination of the ornamental planter. Almost every other operation of planting is mechanical; it is in this mode of grouping, and following the principles of nature; that the man of taste will be distinguished from the mere gardener. The effect of putting in practice the principles to be derived from such a study may be seen in Mr. Price's woods at Foxley, which no man of taste ever saw without being filled with wonder and delight.

SECT. II. OF THEIR ARRANGEMENT SO AS TO PRODUCE HARMONIOUS AND VARIED COLOURING.

ANOTHER source of variety, which is independent of the modes of growth or the manner of disposition, is *colour*. Hence, to assist in the arrangement of a numerous collection of trees and shrubs, a knowledge of the harmony of tints is essentially necessary to the planter. The subject, indeed, more properly belongs to painting; but a few remarks here may tend to shew its importance. It may be thought, that the different tints of green in trees are distinctions too minute to be attended to; but reflection and experience shew that they are of material consequence in scenery. Imagine two woods of equal and considerable extent,—the one composed of the yellow green of the weeping willow, the other of the dark green of the oak: how different must be the impressions received from each, though the general form and composition of both, at a distance, would appear the same! It is evident, that the effect of the different greens must be much more conspicuous in scenes intended to be more minutely examined by the eye:—how different even the green of the gooseberry bush and currant tree when opposed to each other!

The tints of trees may be considered with respect to their harmony with one another—with external scenery—their gradation—and their particular effects. The harmony of tints, in general, is derived from known laws in optics, by which certain colours, as *red* and *green*, *yellow* and *purple*, *blue* and *orange*, agree with one another respectively; and certain other colours, as *red* and *orange*, *yellow* and *green*, *blue* and *purple*, disagree with each other respectively: and again, certain colours, as *green*, *purple*, and *orange*, when mixed together, destroy each other. These harmonies, discords, and privations, will remain true, although the colours should not be bright. The slightest tinge will have the effect. When weak colours that agree are placed adjoining, they support and give spirit to each other. A hawthorn hedge, among the green of pasture fields, has the same dull, green appearance; but when opposed to the brown of a ploughed field, it appears with peculiar spirit and force. Again, the ploughed field, were it not contrasted with the hedge or some object of a similar colour, would appear dark and colourless; opposed to the hedge, it appears of a rich brown.—A Huntingdon willow, observed alone, appears green, like any other tree; but, contrasted with an oak or a chesnut, it approaches to white; and the oak again, by the contrast, appears much darker than before. If plantations were arranged agreeably to these principles, the colours would at all times appear striking and forcible; but from the opposite conduct, that of

mixing all colours together, *they are annihilated, and their separate effects destroyed.* In consequence of this, it is frequently said, that *trees have no colour but green, except in autumn;* and that attention to these principles in their arrangement is frivolous. But nothing can shew greater ignorance of nature. Green is indeed the predominant colour of trees; but it is only in one or two of the summer months that it nearly absorbs every other colour. All trees have their peculiar autumn and spring tints, which in midsummer are only weakened, not destroyed: and, whether it be not of greater importance to attend to the harmony of these tints, than to neglect it altogether, because the effect would be in some degree lost during a month or six weeks in summer, I leave every man of taste or sense to judge. It is evident, that the *harmony of wood with landscape* must depend upon the general principles that have been already mentioned. One principle of harmony is, that the general appearance of the wood planted about a mansion should correspond with the general appearance of the wood in the surrounding country: if otherwise, the space so planted will appear a formal spot in the general view. The same principle requires also, that in a scene where water is a prominent part, and has a tendency to make the landscape too cold; trees of warm tints (by no means evergreens) should be principally planted adjoining to it. On the contrary, where buildings make the landscape too warm, cool tints, such as ever-

greens, should be planted, to counteract that tendency. Some objects in landscape require to be relieved, and set off with spirit; others require to be kept under, or prevented from becoming principal. These, and a great number of other important particulars, are effected by the colouring of trees and shrubs.

If we operate with the permanent dark and light greens, as with light and shade in landscape painting, we may produce many of the effects of *aërial perspective*. The imaginary height of a hill may be increased, by placing dark coloured trees at the base and lighter kinds toward the summit: so may the apparent breadth of a lake, by planting trees of a dark green on the side nearest the eye, and others of a lighter tinge on the opposite side: in the same manner, bays or recesses may be apparently deepened, by placing the light-coloured greens on the prominences. This mode of operating with the colours of trees will only be deemed unimportant by the ignorant or unexperienced.

Though the harmony of tints produces a pleasing scene, their disagreement, on the other hand, may produce a striking effect*. An outline, which cannot be varied in form, may be broken by the opposition of its tints, or by masses of dark and light green. Two or three trees together, that form a striking contrast with

* Whately.

all around, may attract the eye, and fix it so, as either to induce it to admire some object, as a building; or prevent it from viewing something disagreeable, or less noble, in the scene. Trees of a reddish tint, or evergreens, have the power of attracting the eye in an astonishing degree: and in many places, where the former have been planted at random among other trees, they distract the whole scenery in the autumnal months.

SECT. III. OF THEIR ARRANGEMENT SO AS TO UNITE BEAUTY WITH UTILITY.

It is allowed by all, that beauty is most to be admired when combined with utility; and nature, whose economy is ever beautiful and instructive, in none of her works performs this with greater simplicity, than in her arrangement of the common vegetables of a country. Thus if we enter a forest or woody waste, which are perhaps as near or nearer nature than any other species of the scenery of this country, we may by observation, comparison, and reflection, discover the indications of every valuable practice in useful or picturesque planting. But let us first see what utility dictates with regard to an arrangement where that is kept chiefly in view. As every tree hath a certain soil and situation (those in which it will prosper better than in any other, that is, produce timber in the greatest quantity and best quality);

and as this tree will generally pay better than more valuable kinds that would not thrive, or would grow too quick there; it follows, that, in the formation of useful plantations, one great object should be, to accommodate the trees to these circumstances. Now, as the properties of soils and situations are various, this naturally leads to a corresponding variation of the species of tree also; and *this variation at once produces ornament and utility.* Now, in natural forests, such an arrangement actually takes place. Thus in one part, we find the oak as the principal tree; the hazel the principal undergrowth; the cowslip the principal plant; the *poa nemoralis* the principal grass; and the *hypnum* the principal moss. Farther on, a few beeches mingle with the oaks; proceeding onward, beech becomes the principal tree. The undergrowths changing in the same way, we there find the thorn, the violet, the *poa trivialis*, and the *bryum*. The ground becomes moist, and the birch gradually appears; the moisture increases—and, as the birch retires, the alder succeeds —each with appropriate undergrowths, or ever-varying glades of pasture*. The arrangement goes on thus throughout the whole forest; and if the soil were examined, it would be found to vary correspondently with the trees. Where the oak abounds, it will be found deep and good; dry where the beech prospers, and moist where the alder prevails. An adequate idea is seldom formed of the effects and advantages that might be produced by adopting this mode of arranging vegetables in arti-

* See Gilpin's Forest Scenery.—Walks in a Forest, &c.

ficial scenery, whether we regard the first expence of planting, the future beauty, or the ultimate utility. None but those who unite a knowledge of botany with painting can conceive the variety and perpetual interest that would thus be created in a place even of the smallest extent, and with the least natural advantages. At present, all improved places have the same general appearance; because composed of the same kind of mixture. A shrubbery in one estate, is precisely the same with one at a hundred miles distance; and a few square yards of either is a pattern of all the shrubberies in Britain. But, were nature followed in this respect, the variety would be endless. Nothing could then be more interesting than to walk or ride through a place, thus laid out; to view the trees, shrubs, plants, and even the grasses and ferns; the infinite diversity of shapes, colouring, and composition of the trees and shrubs; and the ever-varying openings and intricate recesses between them—again varied with groups and turfs of flowering plants and ferns, spreading among the grass, in every direction;—and all this independently of every other object,—such as buildings, rocks, water, animals, distant prospect, and even variety in the grounds. So that, by this mode of planting, a situation, naturally the most dull and insipid, may be made infinitely varied and interesting. And I repeat, that this mode of arrangement is not more beautiful in shrubberies, flower-gardens, and green-houses, than it is profitable in extensive plantations.

SECT. IV. OF THE DISPOSITION OF WOOD, WITH RESPECT TO THE SURFACE OF THE GROUNDS OF A RESIDENCE, AND THE GENERAL SURFACE OF THE COUNTRY.

THE form of surface most desirable to be planted with wood, in the grounds immediately adjoining a gentleman's seat, must be chiefly determined by the character which the place is to assume. In a situation where the grounds are of an even or level surface, there can be nothing to interfere with this rule; but when the surface is varied with swells, hollows, and abruptnesses, the great art is, to combine the natural character of the place with the character to be created; and when these are understood by the designer, the best effect will be produced. Independently, however, of artificial characters, nature always points out rising grounds for plantations. Wood placed on knolls or swells heightens their effect, and gives spirit, force, and intricacy to a scene, otherwise tame and monotonous. On the contrary, wood placed in the hollows only, or in the hollows and eminences indiscriminately, destroys all the expression or natural features of the surface, and often produces deformities. Nothing is more noble than a steep hill clothed with wood: but, imagine this hill perfectly bare, while the surrounding country is wooded, and it becomes a deformity in the general view. To plant the hollows, and leave bare the eminences, is,

in almost every situation, counteracting nature. Even in pleasure grounds or parks, a group of shrubs, or a few trees, placed upon a rise, however gentle, set off the scene, as it were, at once: but, plant them only in the low places, and they will remain until full grown before they have much effect; and at that time, though the residence may have the appearance of wood at a distance, yet, when it is examined particularly, the features of the grounds are totally destroyed. There are many country seats, that have a sufficient quantity of old wood, which, if it had been planted with a proper regard to the natural variety of the grounds, would have made them as superior to their present state as that is now to such as are totally destitute of trees. It is not meant, however, that no low situation should be planted, or that trees should be placed formally on the summit of every eminence; on the contrary, dells, dingles, and such romantic places, should be shaded with wood; and not a group nor a single tree should exist, but what appears connected with other trees, as well as with the grounds. Taking the country in a general point of view, the hills should be wooded; the rising grounds between the hills and the vallies diversified with gentlemen's seats, pasture lands, and some corn fields; and the lowest parts kept in a state of almost perpetual aration. Most of these vallies, to prevent the stagnation of the air, and to suit the particular mode of farming for which they are adapted, should be free from plantations, and sometimes even from

hedges. Viewed from rising grounds in autumn, they should present broad flat shades of rich yellows, interspersed with farm houses, and relieved by roads, canals, or rivers. The Carse of Gowrie, a fertile and beautiful valley watered by the Tay, and bounded on each side by ranges of hills and mountains, affords an excellent example in illustration of this remark. There, in sailing from Dundee towards Perth the general foreground on each side is a level country covered with corn; the middle distance rising grounds and hills chiefly under pasturage varied by wood, enlivened by castles, mansions, and villages. Behind these arise a chain of stupendous mountains, the craggy summits of which are covered with snow, or lost in white clouds, or sometimes obscured by the distant thunder-storm.

There is nothing of so great importance as the situation of wood, whether we look to the general appearance of a country and the improvement of its climate, or to the beauty and value of individual estates. All other operations that can be effected about a mansion are, comparatively, of little importance. It is the wood, like the shades in a picture, that gives the effect; and as it is by the situation and relative connexion of these shades, that an expressive or unmeaning picture is produced by the painter; so, by the site and connexion of plantations, a place is either deformed or beautified by the planter. Even small groups and detached trees, like the last touches in a picture,

are of the utmost consequence; and every painter knows, that, when these are laid on by an unskilful hand, they never fail to spoil the whole. It is lamentable to see the plantations that are daily making at a considerable expense, without any regard to this principle. In the level country of England, it may be thought of less consequence; but in Scotland and Wales, where the grounds are strikingly varied by nature, it is of the utmost importance. In less than half a century, wood will completely change the appearance of gentlemens' seats, and of the whole country; and those who understand the subject will allow, that there is some danger of the change producing a bad effect.

Scotland, for example, is at present an interesting country, as expressive of a peculiar character, *the wild, naked, and romantic.* If that character be partially changed, the effect will be displeasing; a few clumps and belts seen here and there will only make us regret the want of more extensive woods; but, change it completely, and the expression will be superior to its present state, and much more rich and noble than England, and perhaps most countries. That range of mountains called Pentland Hills, in the neighbourhood of Edinburgh, reflect a bleak and savage character upon all the surrounding country in its present comparatively naked state. In the progress of improvement, the first change of character

will take place when the young trees now planting about gentlemens' seats, and those in the hedgerows, are grown up. Then the surrounding country will have a wooded appearance; and instead of the present effect, which, though bleak, is harmonious, there will be a strong incongruity, arising from the opposite expressions of richness, and bleak sterility. The next change will be when these mountains are varied by wood; then the separate effects will become blended instead of being opposed, and in their room will be produced one harmonious composition of richness, intricacy, and grandeur.

SECT. V. OF THE DISPOSITION OF WOOD ON A RESIDENCE WITH RESPECT TO QUANTITY.

THE wood surrounding a gentleman's seat should either be disposed in groups, so close together as, at a small distance, to appear a connected mass; or one or more large irregular masses must be planted, to which all the groups and single trees should seem to belong.

The former method will have a good effect when the surface is unvaried; but can only be adopted with propriety, where

the site of the house is elevated or on a declivity, where moisture or stagnation of air will not prove pernicious*. But the latter method may be adopted in every case. In *levels*, the principal mass or masses may be placed at some distance from the house; which may still be connected with them by intervening groups judiciously placed for this purpose. On *irregular* surfaces and *hilly situations* the same mode may be successfully adopted. The masses may generally be placed upon the hills, while the connecting chain of thickets and straggling groups descend into the valley, and embrace the house. These groups should never be large; three or four trees together will generally be sufficient; their effect depends not upon the magnitude of the group, but upon their number and apparent connexion. This object is attained by making the groups loose and open, and by scattering single trees among them; and again, by grouping these single trees, and even many of the groups and thickets, with lowgrowths, as hollies, thorns, honeysuckles, ivy, &c. to take away from the formality of solitary and naked stems rising from smooth turf. The common method of scattering single trees here and there, and always at some distance from one another, gives a formal *stemmy* appearance to a lawn or park, which is never seen in nature†. Foxley is an excellent

* Saughtonhall and Lanhangles are examples, where the effect is given almost entirely by groups and single trees.

† Examples of this may be found every where—See Wimpole, Eaton Hall, Pinchea, Oakhampton, Sampford, Raby Park, Thorndon Hall, Tilney Hall,

instance of the former mode. There the surface consists of one large valley, surrounded by a varied chain of hills, which are almost entirely covered with wood. The valley, which contains upwards of two thousand acres, is partly under aration, and partly in lawn and park. The former part of it is joined and connected to the clothed hills by wooded dingles, orchards, and trees in the hedge-rows; and the latter part, comprizing the park, lawn, and mansion, is united to them by thickets containing the gardens and offices, by numbers of groups connecting the mansion with these thickets, and by other woodinesses fringing the margins of rills, or encircling little lakes and connecting them with the rest of the parts so as to form a complete whole.

The happy manner in which beauty and utility are combined in this disposition of wood is admirable; particularly near the mansion, where the offices and gardens are so connected as, with comparatively very few trees, to produce the general effect of massiveness and grandeur, and, when examined, so much intricacy and variety, that on a first view of the place no stranger would expect to find, besides all the *necessary* appendages, a beautiful flower-garden, conservatory, winter garden, and aviary, all within less than a minute's walk of the drawing-room.

Luton Park, Kimbolton, Beverley, Rainham Hall, Althorpe Park, Exton Park, Enmore, Ickworth, Hurst Park, Margan Park. See also all those places referred to by Mr. Repton as illustrative of his "Observations on Landscape Gardening."

CHAPTER IV.

OF THE SUBJECTS OF PLANTING, OR DIFFERENT KINDS OF PLANTATIONS.

These may be reduced to—1. *A grove*, or a collection of trees without undergrowth; 2. *A wood or forest*, or a collection of trees with undergrowth; 3. *Copsewood*, or undergrowth alone. 4. *Groups*, composed of never fewer than two trees, or a tree and a shrub; and 5. *Avenues*, or single rows of trees in different directions, and for different purposes of fancy or use.

1. Groves are of two kinds. The first is generally made for ornament in parks. They are uninclosed; admit the pasture to grow below them; and appear, when we are walking through them, as a large collection of single trees. The second kind is composed of the pine or fir tribe. These are commonly planted on hills, moors, or commons; they are thicker than the former; they effectually prevent the growth of pasture; and are for the most part enclosed. The character of the former is generally solemnity and beauty; of the latter chiefly picturesqueness. Groves are at first planted equally

thick with other plantations. As they grow, they are gradually thinned out, until the trees left standing are able to defend themselves from cattle. The fence is then removed or destroyed, the outline varied, and the spaces between the trees sown with grass seeds. Fir groves are often allowed to remain without thinning, until they are fifteen or twenty years old; and then they are considered as a full crop, and cut regularly over.

2. A WOOD is well adapted both for ornament and utility. It is formed, at first, by planting timber-trees at such distances as would form a grove, and filling up the interstices with the kinds intended for undergrowth. This is the most generally applicable kind of plantation, and commonly the most profitable, particularly in strips and belts. There, the undergrowth thrives best; thickens the strip below; completes the shelter; and, by concealing the real breadth, gives a massiveness and grandeur to narrow plantations, which they can never have, if planted in the grove style. Oak undergrowth is generally the most proper; and, if its worth were fully known, many plantations might be made of double their present value, have a much better effect, and afford better shelter. Most plantations (particularly in Scotland), though they generally go under the name of woods, are in reality of the grove kind. We find none of the trees kept decidedly under the rest, cut over, and allowed to

spring up again, while a certain number, from fifteen to thirty feet distance, are preserved until their timber be full grown; but the trees, being once planted, are allowed to grow up together, only a few being thinned out where they are too much crowded, and even this is little attended to. Those removed are either cut over, or grubbed out by the roots, as is found most convenient, without any regard to propriety. In consequence of this management, a few bushes of undergrowth are found in some places, and the rest of the ground, if not shaded too much by the crowded trees, is covered with pasture; and neither the pasture, nor the undergrowth, from being intermixed, can be turned to the advantage of the proprietor. There are other plantations where undergrowth exists among timber-trees in a more general way, but of kinds which are of little or no use, except for fuel; and this is by no means a profitable article, particularly in a coal country. But, on the other hand, there are woods in some places where both timber and undergrowth are cultivated; and it is from seeing the great profits obtained by the proprietors of these, that I make the following observations on the advantage of raising oak undergrowth in woods. The high price given for oak bark is generally known; and the sum given for an acre of oaks, from twelve to twenty-five years old, valuable for the bark alone, is very considerable. Among the instances that occur to me at present, the Duke of Athol's woods at Dunkeld appear the most

proper to be mentioned. There, on land worth little or nothing in aration or pasture, are oak woods, principally natural, the undergrowth of which is sold every twenty-five years, at the rate of £35. or £60. per acre*; the purchaser being at all expence of cutting, carriage, &c. This is from 25*s.* to 48*s.* per acre annually, independently of the value of the timber-trees left, fifty of which usually remain on each acre. If the soil and exposure of these woods be taken into consideration, the growth of the trees will appear considerable. But I have observed that oaks do not grow half so fast at Dunkeld, as they do in the low and comparatively sheltered grounds of the Lowlands of Scotland, or England; and I am confident, that if oak woods were planted (or at least undergrowths of oak, in woods of any other deciduous tree) in these districts, it would afford at least double the profit that it does in the Highlands: it would grow equal in size to Dunkeld undergrowth in twelve or thirteen years, and afford two cuttings instead of one. Many places in the woods of Dunkeld are too thin, and others are covered with birches; but where artificial plantations are to be made, the plants could be placed regularly thick; which of course would produce a much more uniform crop, and also make a surface of the same extent more profitable. Lest, however, I should be thought in any degree to make oak undergrowth appear more

* The statute acre is understood here.

profitable than it really is, I shall only further observe, that, in most cold, hilly situations in Scotland and Wales, it will produce upwards of £2., and in more favourable situations upwards of £3. each statute acre annually *; and I do not hesitate to add, that the profit would exceed these sums in both cases, were proper attention given to the plants when young. This profit is independent of that of the timber-trees; and if we suppose fifty, or even forty only, are cut every fifty years from each acre, at £1. 5s. each, this is £1. more, or in all from £3. to £5. each acre annually for oak woods; and I believe no one acquainted with the subject will allege that these calculations are over-rated. Another consideration which ought to operate as some inducement to plant oaks, is the easy charge with which it may be accomplished, at least in very extensive plantations. From the plantations at Welbeck, and the writings of Mr. Marshall and Colonel Emerich, and the remarks in Sect. 3. Chap. II., it is evidently the best method to raise oaks from the acorn †, by sowing them where they are

* At Moccas Court, in Herefordshire, the seat of Sir George Cornewall, Bart. it affords upwards of two guineas annually each English acre.

† An acre of oaks affords a greater quantity of vegetable product than the same space occupied with any other tree. This is owing to the tap-root of the oak penetrating many feet below the surface, and deriving the principal part of its nourishment in the bowels of the earth, where no other tree can reach. It is from the tap-root principally that this tree increases in size, although it will live many years with horizontal roots only. These facts deserve the attention of planters.—See *Miller's Dict.* art. *Quercus.* See also *Hunter's Georgical Essays,* Vol. VI. p. 442, &c.

finally to remain. Now, two or three bushels are fully sufficient for an acre, which, at 8*s*. or 9*s*. a bushel, is much below the price of only one thousand transplanted trees of the cheapest sort, and which would not plant above a quarter of an acre. Transplanted oaks, which would cost nearly double the price of the acorns, would, in the space of four years, be at least the growth of three seasons behind them in point of size, both being put in the ground at the same time. Supposing the ground, then, on which an oak wood was to be raised, summer-fallowed and trench-ploughed at £2. each acre, and sown broad-cast before the last ploughing with acorns; the total expense (making an ordinary allowance for the proportion of the expense of enclosing) would be only £3. 5*s*. or £3. 10*s*. each acre. Or, if it were desirable to have the undergrowth of oak only, and the timber-trees of some other kinds, then 250 ash, beech, or elm, on each acre, (which would afford a distance of more than twenty feet between each tree) could be planted immediately after the acorns were ploughed in, at an expense not exceeding 10*s*. each acre more, or £3. 15*s*. or £4. each acre in the whole. I appeal to every one, whether plantations, with the soil thus prepared and planted, for £4. 10*s*., would not far exceed in growth those where the soil is uncultivated, but where the ground is pitted and planted with transplanted oaks, at the rate of £8. or £10. each acre.

Indeed, where extensive plantations of deciduous trees are

to be made, sowing will generally be found the most profitable mode; and there are many cases (as in old moory pastures) where a single furrow would be abundantly sufficient to prepare the soil for this purpose. If acorns were to be sown, they might be ploughed in; or ash, beech, &c. might be sown immediately after the ploughing, and then harrowed in. Thus, thousands of acres might be planted under the expense of 20*s.* per acre, that would prosper better than those which cost half as many pounds*.—These remarks shew the superior advantages of woods to other kinds of plantations.

It is not my intention, however, to recommend the formation of them, exclusively of groves or coppices; on the contrary, there are thin soils, with bad under-strata, where fir groves are more profitable than any other kind of plantation: and there are steeps and rocky banks, where no tree can be so advantageously cultivated as the common ash; and rich moist places, where no plantation will turn out so profitable as osiers. But, generally speaking, it may be safely asserted, that woods are the kind of plantation that ought to be most generally formed; and that though the kind of *timber* grown in these woods must vary according to the consumption of different places, yet that oak will be found the best and most profitable *undergrowth*.

* See *Emerich's Culture of Forests*.

3. Copsewood alone is seldom desirable in point of character, though, in many places, it is the most profitable kind of plantation. Its formation is simple: when of a proper size it is cut down; after which, the stools spring up; and this operation is repeated periodically. Copsewoods, however, are in general wretchedly managed, particularly in England.

4, 5. Groups, Avenues, and rows of trees, whether in hedges which divide fields, or in the ancient style of gardening, require no definition or description.

Wherever a plantation is to be made, it is of great consequence to fix upon the proper kind. In determining this, the kinds of woods, and species of trees in the surrounding country—the market—the present or probable expense of carriage by land or water—and a variety of other circumstances, are to be considered; and that kind fixed upon which shall in the end turn out the most profitable. The plantation being made, the particular kind should be held strictly in view in their after-management. A collection of oaks intended for a grove, if not gradually thinned out as they grow up, will never succeed; but if the same collection were intended for a wood, thinning them out, in place of cutting over, would lessen the crop of undergrowth. No mode of management will make a collection of firs a wood; nor can a collection of hazels, or lowgrowths, erroneously planted to rear

a grove, ever be made to assume that character. The idea of forming and preserving a distinct character in plantations is never attended to by planters—a certain space is to be planted, and it is filled up with trees at random. From this neglect alone, independently of all others, (such as preparing the soil previously to planting, cultivating it afterwards, training, thinning, &c.), few plantations yield one-third of the profit which they might do. But were the kind of plantation to be formed previously fixed upon, a proprietor intending to lay out money in planting might proceed with a degree of certainty unpractised at present. In planting a wood, he might calculate upon the first cost—the period when it would make the first return of undergrowth—the distance of time between the periodical returns of the same—the number and value of the timber-trees upon each acre—and finally, the expenses and profit of the whole.

In planting coppices or groves, the same general ideas of original expense, commencement of profit, increase of value, and final advantage, may easily be obtained by first determining on the kind of plantation. But, in place of this, if all these different kinds of plantations, and the species of tree suitable to each, are mixed together, as is always done, no calculation approaching to any degree of certainty can be made. Who

can predict the future expense of such a plantation? Or to what advantage can it be turned? The proprietor must feel great difficulty in directing their general management, and great uncertainty as to what they ought to produce; nor has he any kind of check upon either the manager, the buyer, or the seller of his timber. But, by the mode recommended, he has a certain object in view in every plantation—in every hedgerow or single tree which he plants or may possess; and all his operations tend to promote this object: in this way he acts, though not with an absolute certainty of the profit and loss, yet with such clear ideas, that he can never be at a loss how to proceed, nor ever be greatly disappointed in his expectations.

CHAPTER V.

OF THE FORMATION OF PLANTATIONS.

SECT. I. OF THE OUTLINE OF PLANTATIONS.

The outline or boundary of plantations must be determined by the character which they are to assume. A tree being a picturesque object, all wood is consequently so; and as the addition of wood to ground is always an addition of picturesqueness, (though often mixed with grandeur or beauty,) hence the propriety of an irregular or picturesque outline in every kind of plantation. When the character to be produced is *grandeur*, the bounding line should consist of bold, angular prominences, succeeded by deep incisions, forming large bays and promontories; and to give these still greater effect, and vary their outline against the sky, they should be adapted to the variations of the ground, the bays being in the hollows, and the promontories on the eminences. In this mixture of curves and straight lines, the former should generally be obtuse and convex, and the latter of considerable length. All should ap-

pear 'irregularly great.' Plantations made on hills ought always to assume the character of grandeur. Those introduced among cultivated fields, and bounded by straight lines, may have a very grand effect, if due regard be had to vary their outline, by attending to the angular insertions of hedgerows or belts; though, in this case, it is impossible to avoid a degree of formality which is always connected with cultivation, and which, being essential to it, cannot be considered as a deformity. When a plantation is to be made of a size which does not assume the character of grandeur, the outline should be composed of such a mixture of straight and curved lines as will relieve each other, produce *variety* and intricacy, and correspond with the surface of the ground. Nothing can be more unnatural or insipid, than a serpentine line, or one wholly composed of curves, as the boundary of a plantation: it is totally void of variety and intricacy, and destitute of force and spirit, which are some of the great objects obtained by planting, and which it is the peculiar property of irregular or picturesque forms to confer. The outline, where ornament is a principal consideration, should be broken by single trees and groups, so dispersed, as to increase its irregularity, and take away from that formality and sameness which lines of every kind have, when viewed alone. Those who attempt this, without understanding effect, clog up the bays and recesses, in place of making them appear deeper and more intricate; and thus they do

much more harm than good. The outline is also greatly varied, and much improved, by mixing low growths with timber trees along the boundary of the plantation; and afterwards by taking away the fence, and making partial inroads or recesses of different forms and degrees of depth. In open groves, where the trees stand single, and have no fence, the outline is easily varied, and with great effect. The different forms, colours, and shades of green, when no other mode is applicable, may often have a surprising effect in apparently varying the boundary of a plantation. At Keddleston, near the house, is a straight line which forms the boundary of an oak wood; but near to one end are three larches, which bend forward from the other trees, and so far diversify the outline as to take away every appearance of formality. Groups and thickets, when planted in place of a circular fence, like a clump, should always have the most irregular outline. This irregularity is apparently increased, by mixing low with tall growths at planting; by removing the fence when these are grown to a certain height; and by judicious thinning. The great beauty of small groups and single trees, arises from their connexion*, and the

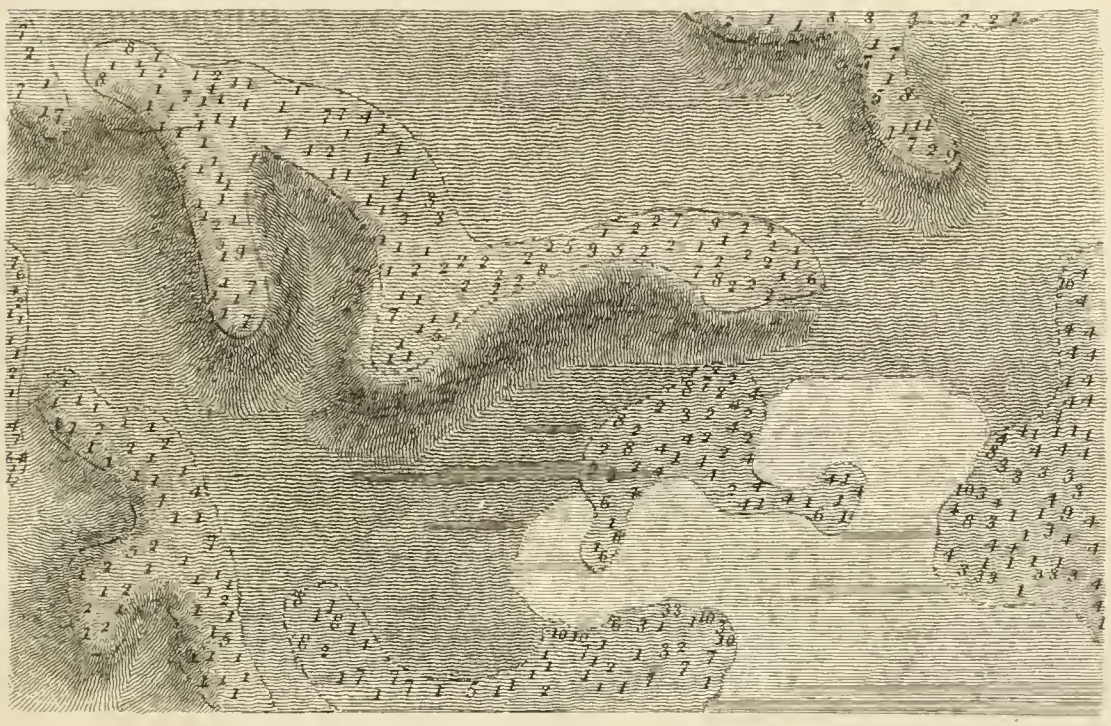
* 'In the *Liber Veritatis*, consisting of above three hundred drawings by Claude, I believe there are not more than three single trees. This is one strong proof (and I imagine the works of other painters would fully confirm it) that those who most studied the effect of visible objects, attended infinitely more to connexion than to separate forms. The practice of improvers is directly the reverse.'—*Price's Essays*, Vol. I. p. 321.

bends and inclinations of their stems. This may be produced, by planting two or more trees or shrubs in one hole, of different kinds, or the same kinds of different sizes, &c. and connecting these by others straggling round them. The most beautiful examples for this work are to be found in natural forests, or in woody banks and commons, where trees have sprung up accidentally.

Plate XX. is intended to shew the manner in which small masses and groups of trees may be grown, without giving a clump-like appearance to the inclosure. The general forms of the masses in fig. 1. may be infinitely varied on a level surface: on an irregular one, they should bear a correspondency to it, as there shewn. These forms are copied from the working-plan for planting Barnbarrow, and upon the grounds have an intricate appearance, and considerable effect even from the fences and the young trees already planted. On all level surfaces the same thing may be done with equal ease, as I have proved at Mountwhannie and other parts of Barnbarrow. It must be evident, indeed, to every one, that the principle is universally applicable, and consequently there never can be the smallest apology for the clump. Fig. 1. represents the manner in which I construct a working-plan for forming plantations, and by means of which no gardener can go wrong with regard to the species of tree. Fig. 2. shews the effect of the improvements:

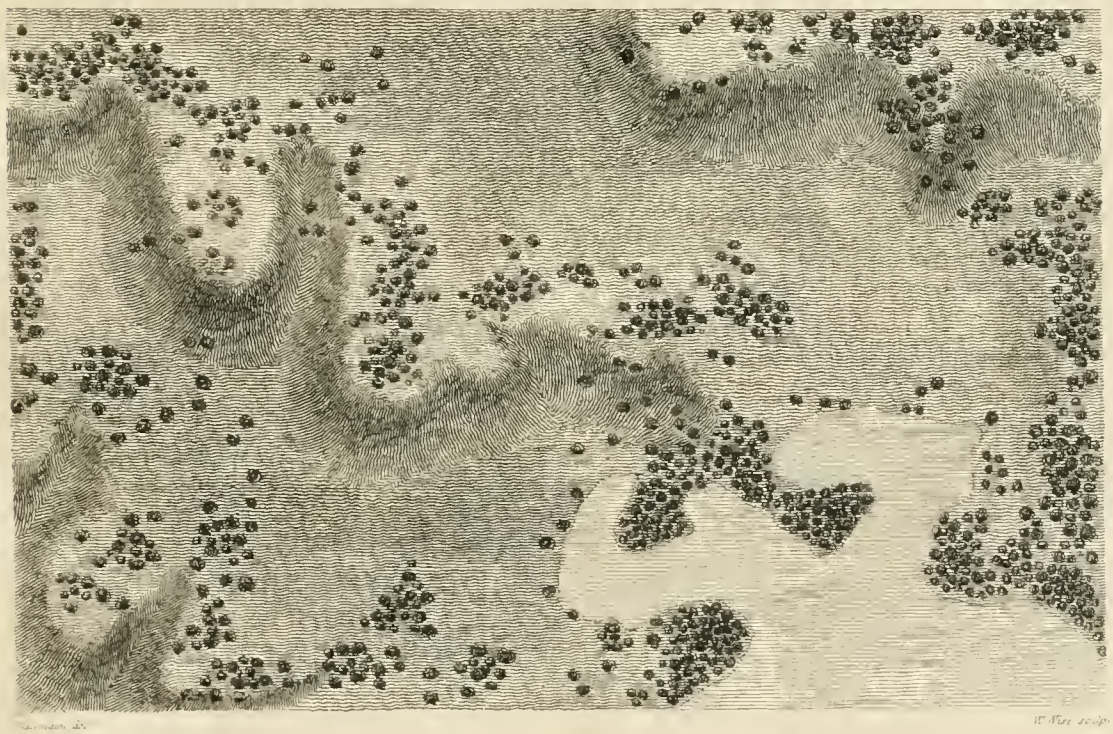
The method by which working plans for forming plantations may be constructed. In this example the object is variety. 1 2 & 3 represent those Trees which are chiefly to remain. 4 5 & 6 are introduced to give shelter to the rest and are mostly to be removed in a few years. 7 8 9 & 10 are to be the undergrowths In large plantations the principles of constructing working plans are the same, but in them much less nicety is required.

Fig 1 The working Plan the figures representing the situation of different kinds of Trees as explained below.



1 Oak	*3 Ash*	*5 Scotch Fir*	*7 Holly*	*9 Thorn*
2 Beech	*4 Birch*	*6 Common Willow*	*8 Hazel*	*10 Berberries*

Fig 2. Vertical profile of the effect to be produced when the fences shall be taken away and the whole properly thinned.



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there these fences are removed, and the masses are thinned out into groups and scattered bushes and trees. I wish it particularly to be observed, that all theground within the fences in fig. 1. is not planted up; but several vacant spots are left which will farther vary the whole, even before the final thinning—the grass which grows on these spots can easily be mown and given to cattle, so that it can never occasion any loss of ground.

How different from all this are the circular clumps, the serpentine belts, and the dotting of single trees by landscape gardeners! From their formal outlines and equidistant mode of planting, more than from any other error, arises that distinctness and monotony, which is so disgusting in made places, and which will ever distinguish a tree, or a collection of trees, planted by them, from the same tree or trees in natural scenery. "It is most amusing to see the *number of days* occupied, and the labour and difficulty they have in marking out the serpentine sweeps of a plantation of two or three acres; which, if nature were followed, might be traced by the plough, after the footsteps of a judicious designer, in two or three hours."

The above paragraph I certainly would have expunged in this second edition, had I not lately observed the practice there condemned still continued; which, after the publication of Mr.

Price's Essays, I should have thought would not have been the case. I lately saw at various places beautiful natural groups changed into circular clumps by planting a mass of young trees around them, as at Ditchley; or changed into solitary trees by clearing away all the lesser growths, as at Ingleston, Valley-field, and several other places.

SECT. II. OF INCLOSING, AND OF DIFFERENT KINDS OF FENCES.

However well the ground may be prepared, and the trees inserted, in the first instance, unless it be well inclosed it cannot be expected to prosper. It is too common, not only to fence plantations at first in an insufficient manner; but to pay no attention to them afterwards: a mode of management at once irrational and unprofitable. There are a great many different modes of inclosing suited to different situations and circumstances. That mode should always be adopted, which can sufficiently accomplish the end at the least expense, unless ornament be a consideration; and then, a sunk fence, an open wire rail, or some of the sorts mentioned in the former part of this work, may sometimes be found preferable.

Useful fences are chiefly of three kinds; *walls*, *hedges*, and *ditches*.

With respect to *hedges*, hawthorn, either raised from haws, or the root *, (which last method succeeds perfectly either with thorns or crab) is preferable, particularly if the soil be good. Crab tree approaches nearest to it, and will grow in a drier soil. Beech, hornbeam, berberry, &c. may be adopted where the soil is too dry or thin for the hawthorn; elder, birch, poplar, alder, &c. where it is too moist for any of the above. Before a hedge is planted, the ground should be well cleaned and pulverized. A strip six or eight feet broad may be fallowed and trench-ploughed the preceding summer. When the soil is naturally good and deep, the thorns may be planted along the centre of the strip; or, if it be thin and too moist, it may be planted on double earth, which is accomplished by forming a ditch of depth and width according to the water it is to contain, or the nature of the cattle from whom the hedge is to be defended. Every hedge should be well cleaned and defended for five or six years after it is planted; and in the mean time, its sides should be trained in a tapering form with the hedge-knife. The great art of preserving hedges fencible, after they are raised, consists in keeping them three or four times broader

* This may be practised with several other trees, as the *crab*, *sloethorn*, berberry, cherry, &c.

at the bottom than at the top. By this means, every part has the full advantage of the sun, air, and rain: it grows equally thick throughout, and particularly below, where it is most necessary. But when a hedge is trained broader at top, or even perpendicular, that half of it nearest the ground is under the drip of the rest; and, deprived of sun and rain, it sickens, produces few or no young shoots—the sap is attracted to the top of the hedge—it becomes quite bare below; and is soon unfit for a fence. Every accurate observer will allow that this is the case, more or less, in the greater part of what are generally considered as the best kept hedges, such as those that surround the market gardens in the neighbourhood of London and Edinburgh, which, though they are annually cleaned and shorn with great care, are commonly so naked below, as to give easy access to hares, dogs, swine, &c. In pruning a hedge, the bill or knife should be used, as being preferable to the shears. The latter bruise off, rather than cut over, the twigs; and hence, every shorn hedge throws out a great number of small shoots from this surface of bruised twigs, which in time forms a kind of coating or net-work all over the hedge, inclosing the naked stems within, and by excluding the air from them ruins the hedge. But the knife cuts off the twigs clean and smooth. By this means, they throw out fewer shoots, but those are of greater strength; and the hedge is equally thick in every part, without being crowded. This excellent mode of pruning hedges

is practised in Berwickshire and East Lothian, where it is productive of many other advantages.

Walls are generally formed of earth or stone. Some are made of stone alone; others of stone and lime; others of turf, or of turf and stone in alternate layers. Some are erected upon the surface, as all common walls; others are sunk into the ground, as the ha' ha', or sunk fence, &c. &c. When lime is employed in walls, if, in place of slacking it, and letting it lie to mellow or sour for some weeks, no more were slacked and made ready for use than what was worked up the same day;—if the sand were clean and rough, and well incorporated with the lime, and were the coping put carefully on, these walls would last an inconceivable length of time. Lime used in this way binds immediately; and the longer it stands the harder it becomes. The surface of such walls would acquire a coating of mosses which would add greatly to their beauty, and prevent decay. Our ancestors used lime in this way; and their buildings, both wall fences and houses, though under every disadvantage, remain as monuments of their superior knowledge in this particular. But modern builders in general destroy their mortar before they use it; it is saturated with fixed air, or, in common language, has *lost band* before it is put in the walls: hence the weakness*, and

* In autumn 1804, during a windy night, a house in Duke-street, Edinburgh, fell down; partly occasioned by the wind, but chiefly from the moisture of the

speedy decay, of modern buildings, those of rubble work in particular. A proper idea of the importance of this hint is too seldom formed. Let me ask, Whether it is most desirable to build walls that will stand for centuries with little or no repair, or to build them in the common way, when, if they stand half a century, they have to be *pointed* or rough cast every eight or ten years; while both modes cost nearly the same original expense? An example of a wall built as described may be seen at Gosford, the noble proprietor of which has built extensively, and always in the same manner. All the eminent architects in London follow the same practice. Robert Liston, Esq. in building his mansion at Milburn, tried the same method, from these hints; and I have the satisfaction to be informed by that gentleman, that it succeeds beyond his expectations. Barnbarrow House was built in this way thirty years ago.

Ditches are generally made in conjunction with the above kinds; as the *ditch hedge and paling; the sunk fence and hedge; and the ditch and hedge with top dike.* This last sort is the best, the most œconomical, and the most generally applicable to

weather preventing the lime from taking band, or rather hardening, which can only take place with soured lime. True band, like the sudden congelation of fluid minerals, takes place almost instantaneously, and better in a moist than a dry atmosphere. See an excellent Paper on this subject in the Farmer's Magazine for August, 1805.

plantations. A small dike of stones, turfs, or any other rude materials, is raised on the top of the earth dug out of the ditch. The medium size of this wall is twenty inches wide at bottom, thirty inches in height, and fifteen inches broad at top*. Any of the foregoing may be made *ornamental* fences: the walls may be covered with shrubs, creeping plants, or ivy; the hedges interspersed with roses, briars, honeysuckles, and other shrubs or trees, and never shorn; and the palings may support the climbing plants, shrubs, or brambles†. A number of other fences might be mentioned, which are particularly applicable to ornamental scenery; but these may be found under Picturesque Improvement.

Fences, or guards for *single trees* and *small groups*, are of various sorts. Where the trees to be fenced are single, and eight or ten inches diameter, pieces of lath, or bark of trees, may be neatly placed on, and tied close round the stem. The height of the lath or pieces of bark may be more or less, according to the cattle from which they are to be defended. As the tree advances in size, the laths will require to be untied, and an additional piece put in, to enlarge their circumference. Where a group of trees, of three or four inches diameter each, is to be defended from both cattle and sheep, a couple of rails fixed to

* Nicol's Practical Planter, p. 362, first edition.

† No plant gives a more natural appearance to park scenery than the bramble; as at St. Mary's Isle, Bolton Abbey, &c.

posts, the lowest three feet from the surface, and the other two feet higher, may surround the whole; and each particular tree in the group may be defended with lath, bark, or furze, for thirty or forty inches high. This will completely exclude the larger cattle, and admit the sheep only to pasture in the group. Such a group, with the outer fence painted of a dull green, and the inner ones made of bark, something near the colour of the trees, and the sheep pasturing among their stems, would not be known, at a very small distance, to be fenced at all. Single trees, or two or three planted in one hole, may be guarded from cattle and sheep by a triangular fence, composed of three upright posts, and a number of short horizontal pieces fixed to it, inclosing the tree in the centre. When trees are planted of a very small size, the guard should be made of considerable width, so that the cattle may not reach over, and crop their tops. These forms of fences may be combined and varied in many different ways. Hints may be taken from them, and new kinds composed, suited to every situation and circumstance.

Whatever gives the idea of restraint in landscape should be carefully avoided; for this reason, all fences must be managed in a manner analogous to what is called *keeping under* in painting. If they must appear, let their colour be such as will not attract the eye: when paint is bestowed on them, let it be al-

ways brown or grey. The *British invisible green* is composed of both pitch and paint; and it is excellently adapted for coating wood or iron, and preserving fences from distracting the eye in scenery. Where a fence cannot possibly be taken away, it may often be so much hidden or broken, as not to offend the eye. This may be accomplished by introducing trees or shrubs,—or in small residences perhaps by party colours; so that, in some parts, the rails may appear distinct and clear, succeeded by parts indistinct and hardly visible. The imaginary extent of some small places or scenes where they are absolutely requisite might perhaps be increased, by making a proper gradation from bright to dull colours in the fences.

SECT. III. OF THE PREPARATION OF THE SOIL PREVIOUSLY TO PLANTING.

NOTWITHSTANDING all that has been written upon this subject, and the many facts brought forward to prove the propriety and ultimate economy of preparing the soil previously to planting; the operations of most gentlemen shew that they are doubtful on the subject, or unaware of its importance. I shall not therefore add much to what has already been written; for all who reflect on the subject will allow it is unreason-

able to suppose that a square yard of earth, matted and consolidated with the roots of heath or grass, can be penetrated by the delicate fibres of a young plant just brought from the nursery; or to imagine that it can find sufficient nourishment in the compass of the pit in which it has been planted. In plantations made by pitting and planting, whatever be the nature of the soil, it will frequently be found, that to supply the deficiencies occasioned by death for two or three years after planting, will require a sum equal to that which would have prepared the soil; while those that survive are so choked with grasses or heath, and become so coated with moss, as to make no progress*. The pine and fir tribe, it is true, are less liable to this than others, as they soon cover the surface, and destroy all vegetation; but I apprehend that the deciduous kinds are more checked by it than most people imagine. Where the soil is prepared, the plants rush up with rapidity and vigour, and soon require no other assistance than thinning. Nor is the additional expense of preparing the soil considerable; in some cases†, it will be more than repaid by the green crops, as potatoes, turnips, &c. which may be raised on it for two or three years after planting; and where no green crop can be

* At Scone this occurred in 1802 and 3, when the Earl of Mansfield was in the habit of planting extensively without preparing the soil. The plantations since made have been prepared agreeably to my directions, and the success has been equal to every expectation.

† As occurred at Leughie, under my direction, in 1803, 4, and 5.

raised, the saving in plants and planting (as few or none will require to be replaced) will entirely or nearly defray the expense of preparation. Thus, independently of timber-produce, it appears, that the additional expense of preparing the soil will generally be repaid the second or third year after planting; if not positively, by crops of vegetable produce; at least negatively, by preventing further expenses. But when the returns in timber produce are considered, it may appear astonishing that any gentlemen should be so forgetful of their own interest as to neglect the preparation of the soil. If we suppose that, during the first ten years, trees grow only twice as fast where the soil is prepared, as where it is not, then a plantation worth £100. in fifty years, had the soil been prepared, would have been worth £200. in the same time. But every one will allow that many kinds of deciduous trees will grow three, four, and often ten times, faster in prepared, than in unprepared ground; and, of course, the return of profits will be correspondent.

The ground being drained and cleared, as far as necessary, of surface incumbrances, *the mode of preparing the soil* will vary according to circumstances. Where a considerable extent is to be planted, the ground should, if possible, be prepared by the plough; by autumn or summer fallowing; or, in very rough moors, &c. by fallowing two seasons; and trench-ploughing should be added to the *fallo*wing wherever it

can be accomplished. This mode decomposes the organic matter, and pulverizes the soil much more completely than trenching with the spade, while it will not cost above one third the expense. In places inaccessible to the plough, the ground should be prepared with the spade, either by digging or trenching. In steep banks, or places much covered with stones, or other impediments to digging or trenching, or where there may be danger of the winter rains carrying away loose soil, pits should be made the summer previously to the planting season. —One pit being opened, the earth of the next should be thrown into it, with the surface undermost. By the time the pit is re-opened, the sward will be rotted, and should be incorporated with the rest of the soil in putting in the plant. Other places still more difficult may be planted by slits; or by putting in acorns, ash keys, or other tree seeds; many of which will grow in crevices of rocks and precipices, where little or no earth can be seen. Where oaks alone are to be planted or sown, no other preparation than pitting is necessary; as they depend more upon the nourishment derived from their tap root, which penetrates in a perpendicular direction, than from their horizontal fibres. Pitting, or slit-planting, are also the only modes that can be adopted with safety in places where the wind or rain are apt to carry off the soil. A case of the former kind came under my practice at Linkhouse, and of the latter at Cowper's Hill.

SECT. IV. OF THE SIZE OF THE PLANTS, AND MODE OF PLANTING OR SOWING.

Experience has shewn, that where there is any degree of natural shelter, and especially where the soil has been prepared, plants that have been transplanted in the nursery, and that are from eighteen inches to three feet high, are the most proper to be chosen. In planting, they ought to be placed from four to six feet asunder, irregularly. In exposed places, where shelter is to be obtained only by planting thick, or by planting nurses, transplanted plants, under eighteen inches high, should be chosen, and planted from thirty inches to four feet asunder. The distance between the plants, in both these cases, will vary much, according to soil and other circumstances. The margins of extensive plantations, and narrow strips or patches, should be thicker planted than the inside of a great extent, though in the same exposure; on the other hand, where the soil is a deep loam, they may be placed wider than where it is thin and gravelly. In very extensive plantations, it becomes an object to plant in rows; as thus the trees may be more easily cultivated. In many cases, this may be done to great advantage with the plough and horse-hoe; and often, particularly in England, vegetables might be introduced between the rows

with great propriety. In all ordinary plantations, the plants should be put in irregularly; and wherever ornament is in the least degree attended to, *irregularly irregular;* they should be grouped, or, to speak in language which a planter will easily comprehend, planted just as if they had grown up by chance from the seed; or as we see in natural forests, where in some places perhaps two or three trees appear to spring from one root, and in others quite thin and more detached. This produces an endless variety of composition, and at the same time as much timber-produce, as the same would do if planted at regular distances*.

The different modes of *inserting* the plants, are, either by pitting or slit-planting, which are the best; or by dibbling, which, however, can seldom be practised with propriety. Planting the pine and fir tribe, I consider as more economical and expeditious than sowing; but where extensive forests are to be raised, most of the deciduous trees, and particularly the oak and ash

* Witness the common mode of thinning fields of young turnips that have not sprung sufficiently thick. Some of the plants may stand at two feet, others not above two inches separate; but where two are close together, by being unencumbered all around, they grow more vigorously than the others; and as the bulk swells, push each other asunder; so that in a short time the whole surface of the field is covered. The same thing takes place in natural woods. Suppose two spaces, containing twenty square yards each, and in each space two trees; but in one, the trees to be planted three feet asunder, and the other three yards: when ten years grown, the bulk and height produced on each of the spaces would be exactly alike.

(which ought to be the deciduous sorts most generally grown), should be raised from the seed, where they are finally to remain. An acorn put in the ground at the same time with an oak five or six years old, will overtop it in seven years*, and often sooner; and Miller says, that they last much longer, and produce more valuable timber†. Wherever the soil is pre-

* "We have known an instance of transplanted oaks remaining upon the ground so long as eight years, before they began to move."—*Marshall's Planting*, Vol. I. p. 122, third edition.

† "When oak trees are cultivated with a view to profit, acorns should be sown where the trees are designed to grow; for those which are transplanted will never arrive to the size of those which stand where they are sown, nor will they last near so long. For in some places where these high trees have been transplanted with the greatest care, they have grown very fast for several years after; yet are now decaying; while those which remain in the places where they came up from the acorns are still very thriving, and have not the least sign of decay. Therefore whoever designs to cultivate these trees for timber, should never think of transplanting them, but sow the acorns on the same ground where they are to grow; for, timber of all those trees which are transplanted is not near so valuable as that of the trees from acorns."—*Miller's Dict.* art. *Quercus.*

This passage should be understood in a limited sense. It has been used, to shew that no oaks ought, on any account, to be transplanted. In my opinion, however, it amounts only to this—that oaks should not be removed at such an age that they cannot, nor upon a soil where they will not, push down tap-roots; for upon these two things depend the quantity and quality of the timber. Without a tap-root, an oak may live a long time, but will not increase in size.—See, as a proof of this, an excellent paper in Dr. Hunter's Georgical Essays, Vol. VI. p. 442.

All transplanted oaks under seven years old, when finally removed, should be cut over by the surface, in the second or third year after they have taken with the soil.

At Foxley, Mr. Price some years ago transplanted oaks when nearly one foot diameter, which are in as thriving a state as any can possibly be which have been raised from the acorn. The success is chiefly to be attributed to the soil and the moist climate of Herefordshire, both of which are highly favourable to the oak.

pared, and it is desirable to raise oaks, it will be found preferable to sow acorns; which may be done at one fifth the expense of planting; and they will turn to advantage, either as timber or undergrowth, much sooner. As oak is a peculiarly valuable tree, both for its bark and timber, it should be universally planted; and were this mode attended to, it would be a saving, even in the first instance, of from £3. to £6. each acre, which, to gentlemen who plant extensively, would be of considerable importance.

With respect to *the mode of performing the operation*, acorns should be sown either in drills or broadcast, and in autumn. Where any other species is intended to be grown among them, they may be *ploughed in*, or, if these are the ash, beech, or elm, they should be sown the following spring. In small plantations, where the plough cannot be used in sowing, tree-seeds may be inserted either with a spade, hoe, or planting instrument. Acorns, and other tree-seeds, as ash and maple keys, beech mast, and Scotch fir seed, have been sown or planted where they were finally to remain, under my direction, at Scone, Bargany, Leughie, Mountwhannie, Linkhouse, Prinknash, and several other places.

SECT. V. OF SHELTERING YOUNG PLANTATIONS.

Shelter is a most powerful promoter of the growth of vegetables: it is peculiarly necessary for many kinds of young trees in all exposed situations; and as there are some kinds that will endure the most severe exposure, the tenderer kinds are sheltered by intermixing some of these hardier sorts among them as *nurses*. A nurse plant should be of a quick growth, especially when young, and endure the particular exposure in which it is to be planted, better than the tree that is finally to become the principal. We have several quick-growing kinds adapted for all the different degrees of exposure, from the seashore to the tops of the highest hills*; and those undoubtedly are the best that can be employed for this purpose. The proportion of nurses planted, to the principal trees, must vary according to the exposure, and the degree of shelter necessary: in some cases, they may be equal in quantity with the principal tree; and in others, not above a twentieth part of their number. It may sometimes happen, that more than one half are nurses; and in that case, as the whole grow up, a few of them should be removed, and more of the principal tree

* See Chap. II. Sect. 1.

planted in their room; especially if the plantation be intended for a wood: but this case can rarely occur, except in situations near the sea; for the larch is at once the most valuable tree, and the one that will endure the most severe inland exposure. Nurse plants have long been introduced into plantations; and although they have, in almost every instance, tended to suffocate and overpower the principal trees, rather than promote their growth, the object is good; the bad consequences resulting from the practice have arisen from improper management. At all times, however, they have a tendency to exhaust the soil, and deprive the principal tree of its proper nourishment. For this reason, they should be planted with great caution. In most situations, the principal trees, if planted sufficiently thick, will shelter one another; they may not indeed be so tall at the end of a certain period of time, as if they had been "drawn up" by nurses; but they will be much more strong and hardy, and better calculated to produce durable timber, and resist the weather ever afterwards. Where ornament is an object of consideration, this mode should almost always be followed; for the incongruity produced by mixing nurse trees, which are generally of spiry forms, with other round-headed trees, is quite incompatible with picturesque beauty or variety. Such plantations, from their spiry outline, though old, always appear young, without giving any of those ideas of

youth and beauty, which young plantations, composed of kinds varied, but not mixed, or even young trees simply considered, never fail to communicate.

CHAPTER VI.

OF THE MANAGEMENT OF PLANTATIONS.

SECT. I. OF CULTIVATING THE SOIL.

To pulverize the soil, or at least to keep it free from extraneous vegetables, is of material consequence in promoting the growth of those intended to be cultivated. When this is not attended to in plantations, the young trees are often more liable to be choked by grasses or plants, than if the soil had not been prepared. The cause is evident; for if the soil, by preparation, be better adapted to the growth of trees which are foreign to it, it must be much better adapted to the growth of the plants that it produces naturally in abundance. To check these, then, so that the roots of the trees may range at liberty, and enjoy the full strength of the soil, must be an object of considerable importance to the planter. The kind of culture

most proper to be followed, will vary according to the nature of the plantation. Wherever the ground will produce vegetables, as potatoes, turnips, beans, &c. a few of them may be planted or sown in the centre of the intervals (where the roots of the trees do not reach,) for a year or two after planting. This necessarily supposes that the whole will be dug and cleaned annually during that time; and afterwards it may be hoed, two or three times a year, until the trees cover the surface, which will generally be the fourth or fifth year after planting. In extensive plantations, all this may be performed by the plough and horse-hoe; except perhaps a little hand-hoeing round the stems of the plants, where it would be dangerous to let the other instruments approach too near. In plantations where, from different circumstances, it may be found impracticable to introduce the plough, the spade and hand-hoe naturally present themselves. In cases where the soil will not produce vegetables, or at least where it may not be thought adviseable to cultivate them, the ground should be kept clear of weeds by hoeing only; or by digging or ploughing a year or two at first, and afterwards by hoeing. Whenever trees cover the surface of the ground, there is no further need of culture; the soil afterwards is kept abundantly porous, and the surface sufficiently free from weeds, by the shade of the trees and the falling of the leaves annually. This is particularly the case in woods and groves of resinous trees. It is the

peculiar property of deciduous groves, that the surface among them is covered with pasture, the seeds of which should be sown when the trees are about nine inches or one foot diameter. Prior to sowing, they should be kept free from weeds.

SECT. II. OF PRUNING PLANTATIONS.

PRUNING, though not so important in plantations as thinning, is of considerable use. It corrects the extravagancies of trees, lops off their redundancies, and directs their produce into a proper channel. Two trees of the same kind planted in similar soils and situations, the one pruned, and the other left to nature, may produce in an equal number of years the same weight of timber: but the tree that was pruned would contain the greater part of that timber in an erect stem; while the other, left to nature, would contain great part of it in arms and side branches. Hence, if the object were ship-building, as is most likely, the natural one was preferable; but if it were wainscotting, the other was undoubtedly the most profitable tree. But the larch, without any pruning, is the best for the purpose of wainscotting; and the oak, without any pruning, is the most proper for ship-timber. This, and other instances that might be given, would seem to point out that trees, both as to the quality of their wood, and their mode of growth, are

by nature fitted for certain purposes in the arts of life; and this again tends to prove that pruning is unnatural and often unnecessary. From different circumstances, however, it frequently becomes necessary to use trees for purposes which they are not naturally designed for. Before the larch was introduced into this country, and in places where it could not be obtained, it might be necessary to train the oak for wainscotting; and where the larch alone will grow, and ship-timber is requisite, it may prove advantageous to prune or bend it to the form that will suit the ship-carpenter, as is explained in Chap. II. Sect. 2. The ash, the elm, and the beech, planted in soil that accords with their respective natures, are, without pruning or culture, wonderfully adapted to the various useful purposes to which they are applied. But, reverse or intermingle their applications, and pruning then becomes necessary.

In *performing this operation*, two things require to be attended to; first, the general principles of vegetation*; and, second, the purposes for which the timber is to be applied. In artificial plantations, however, a good general rule may be, to consider pruning as the means of throwing more timber into the trunk or principal stem, whatever direction that may have assumed by nature. Pruning, when requisite for these purposes, should commence after the trees have

* See *Mirbel*'s Work; *Knight*'s Experiments; and also *Chap.* II. *Sect.* 2.

been five or six years planted, and continue until they are nearly full grown. In general, no tree should be divested of all its side branches. A sufficient number of small ones should always be left to circulate the sap through the tree. The branches of resinous trees never attain a timber size, which shews that their chief use is to serve this purpose. In the fir and pine tribe their number and importance may be accounted for, from the sudden ascent of the sap, and the singular largeness of the alburnous vessels in these trees. Hence in this tribe no side branches should be removed, until they shew evident marks of decay.

Where pruning is attended to, it is most commonly overdone, which I have formerly endeavoured to shew must materially injure the timber, as well as the characteristic beauty of the tree. The happy medium, either in books or practice, is seldom fixed on; and trees are too often either left to contend with whatever injuries or diseases may come in their way, or so mutilated and deformed by the forest pruner as to be unfit to perform their proper functions: the consequence of the first is *unsound* timber; of the second, timber of *bad quality*, and perpetual deformity of shape. Better proof cannot be given than the tall, naked elms, pollard oaks, and naked fir woods, that prevail in many parts of England, and frequently disfigure whole districts of the country. The timber of those species of trees,

as every one knows, is, where properly treated, the most valuable of any; but after this kind of management its quality and quantity are much injured, and, being rendered unfit for every valuable purpose, it is often used as fuel.

In managing wood with a view to ornament, pruning serves important purposes. Individual trees, on the lawn, or near the house, of heavy inelegant forms, may be lightened and reduced to more agreeable shapes; either by cutting out branches, or by incision in the bark and outer layers of wood, to make young shoots spring out. The stems of single trees may be shewn to advantage, or disguised where too formal. Small groups may be improved in the same manner. In connexion with the knife, cords and weights may frequently be made use of. By this means branches may be more gracefully bent by hanging stones near their extremities; or their position may be altered, by fixing them with cords either to other branches, or the trunk of the main tree, or to posts driven into the ground for that purpose. In this way misshapen trees, that could ill afford to be thinned, may be *balanced*, without cutting off any of their branches. A close formal tree may be rendered irregular by separating its boughs. Stems may be moulded into more agreeable curves in scenes of beauty; or rift, shattered, or broken, in scenes grotesque or romantic. The sky line of a plantation, too insipid from being deficient

in variety, may be rendered interesting; or one composed of firs, displeasing from the formality of their conic tops, may be changed by taking away some trees entirely, and cutting the tops from others. The last operation may also be applied to conic trees when they are too prevalent upon a lawn or in a park, or where they do not group well with buildings. It is true, this is destroying the natural character of the tree. But the conical form of the fir is a singular character in trees; and in harmonizing scenery we must chiefly attend to her general excellencies. Many of these operations are performed with excellent effect at Foxley. Under my direction, by this mode of pruning, considerable effects were produced at Kingswood Lodge. The formality of trees not pruned at all, and of others pruned only to a certain height by cattle, were also disguised under my inspection at Barnbarrow, Castlewigg, and Drummond Castle.

SECT. III. OF THINNING PLANTATIONS.

THINNING is an operation of much more importance than pruning; and on it, more than on any other point of after-management, depends the quantity and modification of timber produce. This operation has been so generally neglected in

Great Britain, that few plantations contain one half, and many not one fifth, of the timber they would have contained, had they been properly thinned. The produce of some natural forests that have never been thinned, might be brought in opposition to this affirmation; but, on the contrary, from these may be drawn the strongest arguments for thinning; so that even for this apparently unnatural *operation*, there may be found a precedent in nature. Natural woods, sown by birds or the winds upon different kinds of surface and various sorts of soil, spring up at different times, and of different degrees of thickness and vigour. Hence it is easy to conceive, that those in favourable circumstances will soon overtop the rest; and, if they do not kill, will at least weaken them so much as not to be affected by them, until at last the strongest trees find sufficient room. Thus, though nature be slow in her operations, yet she accomplishes her purpose in the most complete manner. Artificial thinning is only assisting nature; hence leaving even natural woods to be thinned by time, would not be economical; and those who argue from the effects produced by time in natural forests against thinning artificial plantations, do not consider the difference between them, and forget that counteracting or forcing nature is very different from gently assisting her in her operations. Let me remark to such, that in artificial plantations the soil is equally cultivated, and the plants are put in the ground much about the same size, and at the same time. Hence, they rush up together all of the same height, producing

neither beauty nor timber; and none being found so strong as to take the lead and destroy the rest, they grow in this manner until they are so crowded as to exclude air and moisture. Then, unless previous aid has been given, the whole plantation dies together. Instances to corroborate this will be seen in several parts of Perthshire and Yorkshire, and near the road between Glasgow and Hamilton. In most plantations the fir tribe has been introduced either for ornament or shelter. Where thinning is practised, too large a proportion of these firs are left. Hence, from their comparatively quick growth, such plantations have a disagreeable sameness throughout; and as most of them are made in the same manner, this appearance extends over the whole island. The plantations where thinning is principally requisite are those intended for groves. In woods and copses, none require to be taken out but the nurse plants, where any have been planted. Plantations of the fir tribe should be gradually thinned, beginning after they have been five or six years planted, and continuing for ten or twelve years; after that time thinning becomes pernicious. The trees thinned out should always be grubbed up by the roots; for when these are allowed to remain, they check the progress of the remaining trees. Plantations of firs are sometimes, and very properly, left without thinning, and cut wholly down as a crop when fifteen or twenty years old. This is generally the most profitable mode of planting on thin, bare soils in the neighbourhood of

mines, where wood of this kind is much wanted by the miners for supporting the superstrata. Where the fir tribe have been planted as nurses, they should be grubbed out gradually as they begin to injure the principal trees. Groves of deciduous trees should be thinned out after the same manner; only, the operation may go on until the trees have arrived at nearly their full size. Woods (where undergrowth is always intended if they are properly planted) require no thinning, except when nurses are planted, or when the timber trees are too much crowded by the low growths: the whole should grow for twelve or fifteen years, until it is proper to cut over the undergrowth; and at that time the strongest trees should be pitched upon, and left as standards. Copsewoods grow a certain length, according to their kind, and then are cut wholly over by the surface; of course, they require less thinning, unless nurses have been planted among them; and both in woods and copses, these, as they are removed, should be replaced with the principal tree. Whenever ornament is in any degree considered, the trees or copse left should not be equidistant from one another, but, as formerly mentioned, in groups of irregular thickness. Indeed, this mode may be adopted even in woods where utility is the chief consideration; as it will make no material difference in the produce of timber, and is so much more natural. In every part of planting, beauty and utility may be combined.

SECT. IV. OF THE MANAGEMENT OF NEGLECTED PLANTATIONS, WITH A VIEW TO RECLAIM THEM.

From all that I have seen of plantations, I apprehend that there are few in our island which may not be classed under this Section. Many gentlemen, who are very careful in the first forming of plantations, never think of their future management. Some, from erroneous ideas, contend for leaving them afterwards entirely to nature; while others argue, that nothing should be done in the way of thinning or pruning, for a considerable number of years after planting. Neglect of the fences, and a general carelessness, ruin many others; and a great number are wilfully neglected, from the contracted idea of incurring expenses which will not produce immediate returns of profit. These, and many other causes, have contributed to the neglect of most of the plantations of this island, to the incalculable loss of the proprietors, and the nation in general. Nor need it appear wonderful that this is the case; for there are so few examples of well-managed plantations, that gentlemen who plant have no proper examples to imitate; and though much has been written on this subject, yet, until good precepts are exemplified by some individuals, no real improvement can be expected in the general plantations of the country. But when

here and there a gentleman, previously to planting, prepares the soil, then inserts the plants judiciously,—encloses his plantation,—cultivates, trains, and thins it with propriety;—when, in consequence of this, his trees are outgrowing those planted many years before, and yielding more than woods of three times their age—the neighbouring gentlemen take the hint, and adopt the practice—it spreads around, and in a short time it is followed throughout the whole country. This was precisely the case with farming. The most approved systems of agriculture and rural economy, which are followed at the present day, were long since described by the ancients, and more recently detailed in numerous publications by the moderns; but until a few spirited and liberal-minded men set the example, and proved, by their superior crops, the advantages of the new system, nothing was done. But this being now accomplished, good husbandry is spreading wider and wider, and gentlemen, no less than farmers, feel the good consequences.

In bringing a neglected plantation under proper management, the first thing to be considered is, the kind of plantation which ought to have been made there; whether an open *grove*, thick *wood*, or *copse* only. It is then to be considered by what means it may be reduced to the proper character, or to which character it can most easily be changed; for cases will often occur, where the originally proper character must not be attempted,

but that which is already produced must be rendered more characteristic. In proceeding to accomplish this purpose, all plantations will be found to consist of *hardwood alone; resinous trees alone;* or *hardwood and resinous trees mixed together.*

Hardwood.—Where a plantation of hardwood is to be reduced to a *wood* (that is, to timber trees and undergrowth), and the undergrowth is to be used for fuel only, then good trees, of kinds suited to the soil and the probable demand, &c. must be pitched upon, and left as standards; while all the rest are cut over by the surface, that they may become stools for producing undergrowth. The ground should then be dug, trenched, or hoed, according to circumstances; though, from the crowded state in which the trees may have previously been, these operations will generally be rendered unnecessary. But in place of common undergrowth, suppose that of oak were desirable; then, after having fixed upon the proper standards to be retained, all the rest must be grubbed out by the roots, the ground dug or trenched, and acorns planted; and again, when these are grown, they must be kept free from weeds for two or three years, to promote their progress. Suppose it were desireable to reduce the whole to *copsewood.* If for fuel only, then cut over the whole by the surface; if for bark, root out the whole, reserving all the oaks, and plant with acorns, &c. as before. Or if it were desirable to reduce a neglected plantation

of this kind to a *grove*, then the most suitable trees are to be reserved at proper distances, and the rest grubbed out by the roots: afterwards, the ground should have the necessary degree of cultivation, until the trees can defend themselves from cattle; when the whole may be sown with grass seeds.

Resinous trees.—When an artificial plantation of the fir tribe has remained without thinning for twenty years, the case is frequently irremediable: about that age they are generally so overpowered with one another, that they stop growing; and whenever one is thinned out, all around it die. The best way is to grub them all out by the roots, and replant, after the soil is properly prepared by summer-fallow, or two or three corn crops. Natural plantations of resinous trees, under twenty, and artificial ones under ten years old, may most commonly be much improved by thinning. In reclaiming plantations of resinous trees, it is unnecessary to cultivate the soil, as their shade destroys almost every other plant: often, indeed, cultivating the soil becomes hurtful to them, as their roots run so near the surface, that they are liable to be much injured by the operation.

Hardwood and resinous trees mixed together.—Few artificial plantations are entirely without resinous trees. Here I refer to those where the number is so great, that they

cannot be brought under the management recommended in the first head, and at the same time are not sufficient to warrant the management recommended for resinous trees alone. Plantations of this sort can be reduced to the grove kind only; or, if the resinous trees be unequally distributed, to the grove in some places, and the wood in others; the methods of accomplishing which have been already noticed. Under each of these heads, cases will frequently occur, where the tree or trees which are most profitable in that part of the country are deficient, or totally wanting, (at least to a great degree) in the plantation to be reclaimed. In this case, it may be grubbed up and replanted; taking care to leave a sufficient number of trees either scattered throughout, or in narrow strips, to shelter the young plants or seeds.

In *reclaiming* every kind of neglected plantation in a moist soil, recourse must be had to DRAINING. When it is omitted, every other operation, however well performed, will in the end prove unsuccessful. The damage that many plantations suffer for want of draining, particularly all the Royal forests, is incalculable. Many thousands of acres would, by this operation alone, be rendered of twenty times their present value*. As all planta-

* See the Reports of the different counties given in to the Board of Agriculture. The Bishop of Landaff's Observations, &c. The most striking instance which occurred to me, in the course of my practice, was at Schawpark, near Alloa.

tions may be drained by open cuts, the necessary expense is very trifling, compared with the drainage of arable grounds. It is almost unnecessary to mention, that in reclaiming neglected plantations, the fences are always supposed to be kept in proper repair, a neglect of which is often the complete ruin of numberless acres.

THINNING old or neglected plantations should always be performed gradually, and with a due regard to the age and kinds of tree, the soil, situation, and other circumstances. The margin should generally be left thicker than the inside; and that place where the soil is thin, should not be left so thick of trees as where it is deep and good.

PRUNING, also, should accompany these operations, according to the age and size of the plants, the particular species, and the purpose in view.

Let me urge those who have neglected or badly managed plantations to reclaim them without delay. Forming young plantations will prove highly advantageous to posterity. But improving those already grown, by a judicious reformation in the system of management, is a certain gain to the present proprietor, and a benefit to the age in which he lives.

SECT. V. OF HEDGE-ROW TIMBER.

Although a few trees growing in a hedge, when considered singly, may have little effect, and be of no great value; yet a number of hedgerows, all properly interspersed with timber trees, will completely change the appearance of a hilly country, improve its climate, and yield a considerable quantity of timber to the proprietors of the lands. The consideration of this subject, then, must be of great importance to the landed interest in the northern or mountainous districts of this island. The few hints that I shall give, will be included under the following heads: 1. The *lands where hedgerow timber may be planted*, without injuring the farmer; and, 2. The *species of tree* most proper to be planted. With respect to the *farmer's interest*, the lands most obviously adapted for hedgerow timber are those which are much exposed, and kept principally under pasturage; and with respect to the beauty of a country, the improvement of its climate, and the health of its inhabitants, the rising grounds alone should be planted; except a few in the vallies, by the sides of public roads or rivers, to form foregrounds to the rest of the country; and a few near houses or villages, to group with them, and enrich their appearance. Low rich vallies between mountains, that are kept in perpetual aration, should not be planted with hedgerow timber (*see* Chap. III. Sect. 4.). But

a country wholly level, as many counties in England are, may sometimes be partially planted without doing much injury to the farmer; while, if properly managed, it will vary the country, and improve its climate. In such levels, the hedges should be kept very low, and the trees trained erect, with single stems and few lateral arms near the surface; or, as is done in some places, the width of an ordinary ridge on each side of the hedge may be kept in perpetual pasture, which prevents the corn from being so much injured by the trees, and is a great ornament to a farm. But if the whole farm be kept in perpetual pasture, the trees may often be allowed to extend their branches, and the hedges may be kept high or low, at pleasure. Moist or argillaceous soils, under perpetual aration, should never be planted with hedgerow trees: and, indeed, before they are planted any where, a due estimate should be made of their effect on the annual rent of the land—on their intrinsic value—on the climate—and on the appearance of the country.

The *species of trees* which are most proper for hedgerows are, in good deep soil, the oak and Scotch elm; in stony soil, the ash; in poorer soil, the beech, sycamore, and birch; in the case of a moist soil, as meadow, &c. the Lombardy poplar, which, besides its timber produce, forms, when in rows, a close, erect, narrow hedge, fifty or sixty feet high, in a few years. The oak and the Scotch elm prosper better in hedgerows than in any other situation; their roots have a free range in the adjoin-

ing enclosures, while their tops shoot out vigorously on every side, thus producing excellent ship-timber.—*See Kent*'s *Hints*, *Marshall*'s *Planting*, &c.

The beech is peculiarly adapted for thin soils and exposed situations. When planted about ten or twelve feet asunder, it produces excellent shelter, and at the same time a very considerable quantity of timber. The ash and sycamore will grow erect in the most exposed upland situations, or near the sea. When planted in good soil, they should generally be trained to single stems; in which state, their timber produce is most valuable. The timber of the ash, as I have already observed, is becoming very scarce, in consequence of the tree being too much neglected by planters*. In the cyder counties of England, fruit trees are frequently introduced in the hedgerows; this practice might be advantageously adopted in many other counties, and in several parts of Scotland. The resinous tribe, and the evergreen sorts of trees, are generally improper for planting in hedgerows. In many places, where hedgerow timber often exists, the situation is improper, and the management wretchedly bad. Hence it has become an injury to the farmer, without yielding any advantage to the proprietor. Two more glaring instances of this cannot be given than in the tall, naked

* See some Observations by the author on Hedges and Hedgerow Timber, in the Gentleman's Magazine for January 1804.

elms, and pollard oaks which prevail in many places in the south; the former, by improper pruning, are worth nothing; and the latter, by being cut over at the height of eight or ten feet, form ugly clump-headed bushes, which do great injury to the farmer, and yield nothing to the landlord. In defence of these practices, it may be said, that fuel alone is the intended produce; but certainly it would be much the best way to allot a space by itself for raising fuel, and devote the hedgerows to the more important purpose of producing timber. The fuel plantation might be rented by the farmer, and the hedgerows would belong exclusively to the proprietor.—Keeping each species of plantation strictly characteristic of its kind, is as beneficial in planting, as the division of labour is in political economy. There are a number of places in Scotland, and the northern counties of England, where hedgerow timber might be planted, to the advantage of both landlord and tenant, and the great ornament of the country. Suppose an estate of two thousand acres, divided into fields of ten acres each, and the hedgerows planted with trees at fifteen feet apart; this would be above the rate of eight trees upon each acre, or sixteen thousand trees in the hedges only. At the end of thirty years, if well managed, they would be worth from twenty to forty shillings each, say only thirty shillings each; this is *sixteen thousand pounds*. A very considerable sum for a proprietor of only two thousand acres to receive every thirty years, above the annual rent of his estate.

SECT. VI. OF FELLING WOOD.

In trees, as in the human species, there are three stages; youth, manhood, and old age. In the period of youth, the growth is rapid; in manhood, that growth is matured; and in old age it begins to decay.

The most profitable season for *felling timber*, is at what may thus be termed the beginning of manhood. After that time, though the tree may appear sound and healthy, its annual increase is so little, that it would be more profitable to cut it down and replant. The number of years that a tree may stand, before it arrives at this period, must vary in different soils and situations; but the period itself may easily be ascertained—by the annual shoots—the state of the bark—and by taking the circumference of the tree at the same place for two or three successive seasons, and comparing the difference. In the view of profiting from timber produce, it is of great consequence to cut down plantations at maturity*. Many trees will stand

* "It should be in the vigour and perfection of trees (which, for the oak, I take to be about the age of fifty, or betwixt that and sixty years of growth, where the soil is natural) that a felling should be celebrated."—*Hunter's Evelyn's Sylva*, *p.* 508.

half, others a whole century, after they are full grown,—appear quite healthy,—and, at the same time, make little or no increase of timber. But there are particular cases, arising from the nature and state of the markets, where it may even be more profitable to cut timber before it is arrived at a full growth.

Undergrowth is always *cut* in what may be termed the stage of youth, sooner or later, according to the kind of tree, and the purpose for which it is raised. It may be difficult to say when timber, which is principally planted for ornament, should be cut down. A tree, when young and fresh, is beautiful; when middle-aged, it is more or less picturesque; when in old age, strikingly so, with a degree of grandeur; and its greatest height of picturesqueness and sublimity is when decaying under the pressure of age. Hence, if ornament (or expression, which is a better term) were the sole object in view, trees need never be cut down. But most men have a feeling of what is beautiful; and, though all may be struck with grandeur or sublimity, few have so much enthusiasm as to sacrifice the profit of valuable timber, for the pleasure of enjoying either of those characters.

The *modes of felling timber* ought to be different, according to the kind of plantation. In deciduous groves, the trees must be gradually thinned out as they arrive at maturity: if the grove is to be continued, they should be cut over by the

surface, and each stool inclosed with a fence, which, defending it from cattle, may produce a new tree. They should be rooted out at once, when it is not intended to be continued. Pine or fir groves, or any fir tree whatever, that is felled, should be taken out by the roots at once. In woods, the undergrowth should be cut over within three or four inches of the surface, reserving always a good sapling to succeed any timber tree which may be cut down. The proper time and manner of felling timber and undergrowth are of great importance. "A timbered estate (says Mr. Marshall) should frequently be gone over by some person of judgment, who, let the price and demand for timber be what they may, ought to mark every tree which wears the appearance of decay. If the demand be brisk, and the price high, he ought to go two steps further, and mark not only such as are full grown, but such also as are near perfection; for the interest of the money, the disincumbrance of the neighbouring young timbers, and the comparative advantages of a good market, are not to be bartered for any increase of timber which can reasonably be expected from trees in the last stage of their growth.

"There are men in this kingdom, who, from mismanagement of their timber, are now losing, annually, very handsome incomes. The loss of price which generally follows the refusal of a high offer, the certain loss of interest, the decay of timber,

and the injuries arising from the incumbrance of full grown trees, are irretrievable losses, which those who have the care and management of timber should studiously endeavour to avoid. But while we thus hold out the disadvantages of suffering timber to stand until it be overgrown, it is far from our intention to recommend, or even countenance, a premature felling*."

"There are many very judicious observations made on this subject by the Bishop of Landaff, in the Introduction to the Report of the County of Westmoreland, which merit the particular attention of those who are cultivators of oak timber. 'If profit be considered' (his Lordship says), 'every tree ought to be cut down and sold, when the annual increase in value of the tree by its growth, is less than the annual interest of the money it would sell for. This being admitted, we have only to inquire into the annual increase in the value of oaks of different ages.' After various statements, his Lordship fixes upon thirty shillings each as the price of trees which should be cut down; as, if they be cut before they arrive at that value, or if they be allowed to remain till they will sell for a much higher price, the proprietor of the soil on which they grow will be a loser. He also mentions its being the general opinion, 'that it is more profitable to fell oak wood at fifty or sixty years

* Planting and Rural Ornament, Vol. II. p. 98.

growth, than to let it stand for navy timber to eighty or a hundred, owing to the low price that is now paid for oak trees of large dimensions, either by the Navy Board or the East India Company.' For this reason, he recommends the making a much greater than ordinary increase of price on timber of a large scantling, viz. that 'in place of four or five pounds per load, if they would give eight or nine pounds per load for trees containing each one hundred cubic feet and upwards, every man in the kingdom would have a reasonable motive for letting his timber stand till it became of a size fit for the use of the navy; whereas, according to the present established price, it is every man's interest to cut down his trees before they arrive at a proper size to be useful as navy timber.' This points out, in the strongest manner, the necessity of attending to the Royal forests; for, unless this be done, or such a price given for large timber as his Lordship mentions, it is evident that oak proper for ship-building, which is already very scarce, will be completely exhausted in a very short time*."—And perhaps it may be an additional incitement to try the mode recommended for cultivating the larch in the royal forests, and training it for ship timber. See Chap. II. Sect. 2.

* Donaldson's Modern Agriculture, Vol. IV. p. 23.

CONCLUSION.

In concluding these remarks, I beg to refer such of my readers as may wish for more information on the subject, to the many very good Treatises on Planting which are already published. Something useful will be found in every one of them. Some contain minute practical directions for performing the operations of planting; others treat of the various soils congenial to the different kinds of trees, and the various modes by which they are propagated; others have embraced the subject in a more general way, and treated of both trees and plantations. But it appears to me (and, I doubt not, it will occur to every one who is in any degree conversant with planters, or books on planting), that none have hitherto considered wood in an ornamental point of view, and in connection with the actual formation and management of young plantations; two things so intimately connected, that I do not conceive how they can be separated from each other with propriety. For though a tree be the most beautiful and the most useful of inanimate objects, yet, from ignorance of one or other of these properties, we daily see gardeners forming plantations that hurt the appearance of the country and particular places, or such as

will not turn out one half, frequently not one fourth, so profitable or beautiful as they might.

A judicious attention to the preparation of the soil previously to planting, to the culture of it, and to training and thinning the trees afterwards, is of more consequence to the prosperity of the plantation, than most men imagine. The progress which trees have made under the management of some gentlemen who have attended to these circumstances, is hardly credible*. But there are very few indeed who attend to these particulars; and hence few experience that success which results from proper planting. Some prepare the soil before planting, and inclose well; but when this is over, imagine all is done, and pay no attention to training and thinning, though, the more thriving the plantation, the more this operation becomes necessary. Others plant in rough, uncultivated ground, where many of the trees very soon die; and the rest, perhaps scarcely alive, remain for a great many years, until at last they overcome the natural rubbish; and then probably some attention is paid to thinning and pruning them; or perhaps these operations are

* I allude to their progress the first eight or ten years after planting, which is generally the period wherein plantations make least progress. Let it be remembered, that when advising culture of the soil, I always suppose the tree planted as much as is practicable in its natural *state*, or in a more unfavourable one. Such culture will never injure the quality of the wood, since, soon after the trees cover the surface, they are in the same state as if no culture had been given. The effects of too much *shelter* and of *pruning* are very different.—See Chap. II. Sect. 2..

overdone, and the trees are trained up like so many may-poles, or lopped over as pollards. Trees and undergrowth, in many places, are cut down before they arrive at a proper size. On the other hand, many gentlemen, having formed mistaken ideas respecting the annual increase of timber in full grown trees, suffer them to remain until they give evident signs of decay; thus losing both the trees, the interest of their value, and the rent of the surface which they stand upon. But it deserves particularly to be remarked, that in each of these ways there is something that is either good, singular, or recommended by some author, which makes them pass with superficial observers for rational management.

The direction of plantations, I am afraid, is too generally submitted to gardeners and foresters, who, though highly proper in their own place, cannot be expected to have a sufficiently comprehensive view of the subject. But supposing that they had, these men are so frequently changed from one place to another, that the one often, unknowingly, undoes or counteracts the labours of his predecessor. This consideration obliges me to confess, that I am not so sanguine as may be imagined in my expectations of the good which will result from these hints. The following mode, or something similar, appears to several planters and authors, as well as myself, to be the most complete that can be adopted by noblemen and gen-

men and gentlemen with their estates. Every proprietor, who does not completely understand the subject of planting himself, should commit the formation and general management of his plantations to some persons of known abilities, who shall give all the leading directions and proper examples respecting planting, cultivating, pruning, thinning the trees, and felling and selling the timber—inspect them occasionally as these operations are going on,—and give in a report of the condition of all the plantations and trees on the estate, and, when necessary, a report of the value of the timber. A person thus employed in different parts of the kingdom, would soon acquire an accurate idea respecting the kind and quantity of wood in the country; by which he could discern the most economical methods and kinds of trees for each particular place, both in respect to the growth of trees and the value of timber. His attention should not be directed merely to the extensive plantations,—he should examine every hedgerow and single tree; nor should he confine himself to the trees that already exist, but examine every farm—every hedge—every vacant spot, or spare corner,—and observe whether trees might not be planted in some, or all of these, with advantage. A place once fully examined by this inspector, might be managed afterwards with a few visits every year; and of course his salary would be but a trifling object. It is presumed that an estate, though there were little more

room for wood on it than the hedgerows, would soon be greatly heightened in value by a practice of this kind. And if such a general inspector of wood were considered as equally essential to an estate with a steward, I am persuaded it would remove bad planting and bad management, and prove of very great advantage to the landed interest and the nation at large.

It may be thought by some, that a common steward is sufficient for these purposes; but this is viewing the subject very superficially. Few stewards know much about the value of timber; and scarcely any understand the formation and management of plantations. If gentlemen were to be guided by their stewards in every thing, their estates would perhaps cost them little thought; for all would go on easily and apparently very well. But a landed proprietor, alive to his own interest, considers that there are many other things from which he may derive profit, besides the mere rent of arable land. He considers the interior parts of the earth in a mineralogical point of view; his lakes for fisheries; his rivers or brooks for driving machinery, and his hedgerows and barren spots for valuable plantations, &c.;—perhaps he has an idea of adding to the extent of his property, by gaining land from the sea; or if he cannot encroach upon this powerful element, he may strew the shore with stones, and thus ensure himself valuable

crops of kelp*. The true way of rendering an estate of the greatest value is, in connection with good general management, to take advantage of all particular improvements. This alone is good husbandry.

* See the Transactions of the Highland Society of Edinburgh, Vol. I.

BOOK I.

PART IX.

OF THE

CONVENIENCIES PECULIAR TO A COUNTRY RESIDENCE.

THE *design* of these depends upon the general principles of utility and convenience, which it is unnecessary here to enumerate. Their *adaptation* to the ground, and their *situation* in regard to the mansion, must be regulated chiefly by their particular use, in connexion with the principles of picturesque improvement. In all of them, the useful may be mingled with the agreeable; but as both these, in each particular case that may occur, depend upon a thousand variations of use, extent, and relative beauty, as well as the peculiar fancy, wishes, or wealth of the proprietor, little more can be

done (without being insufferably tedious), after referring to principles already treated of, than to mention the names of, and perhaps a few leading particulars respecting, such as are necessary to every complete country residence.

The Approach to the mansion is a variety of road peculiar to a house in the country. In direction it should, on the one hand, neither be affectedly graceful or waving, and studiously intercepted by trees; nor, on the other, vulgarly rectilineal, direct, or abrupt. There is a dignity, propriety, and ingenuity, requisite in an approach, analogous to that of addressing a great man to whom we are unknown. In given circumstances it easily presents itself to the mind; and from the simplicity of the whole operations, both of conceiving and designing an approach, it is easily marked out on the ground—easily improved upon—and the execution is mere road making*. What regards accompaniments to roads or approaches, has been already treated of under Picturesque Improvement. Avenues have been reckoned the only proper approaches to castles; but there seems no reason in nature for such a rule; and arguments from antiquity are certainly insufficient to justify their constant reintroduction in such cases. Wherever they exist with good effect, as at Taymouth, they ought to be carefully

* See Agriculture.

preserved; and even, in some situations, avenues to mansions, as at Fonthill, or straight private roads through monotonous cultivated countries, as near Wimpole and Wilton, or public ones passing along eminences, as at Callender, may be created with great advantage. The new approach which I designed for North Berwick will pass through a straight level avenue one mile in length, already formed, and containing as its termination North Berwick Law. At the end of this avenue the road enters a winding valley, with the law or mountain close on the right, shewing a towering cone of wood, rock, and pasture; and on the left the irregular boundary of a plantation in the forest style. It winds in this valley sometimes under perpendicular rocks at the base of the law; at other times through a smooth surface of verdure; sometimes the wood descends to the road, and appears to stretch across the valley; and at other times it retires into dark recesses: every where it is broken by thickets of thorns and hollies, mingled with forest trees; which, with the rocks and cattle, form new combinations on every movement of the spectator. This style will continue another mile, until, entering a thick wood, and crossing a brook, it will ascend to the intended mansion. The west and north approaches are shorter and widely different, but equally interesting. One of these passes along high grounds, and exhibits extensive prospects of the sea, Edinburgh, the noble view of Dirleton Castle, and the opposite coast of the Forth: another passes through the marine village of North

Berwick, and ascends into the park near the ruins of a fine old abbey. And the last proceeds from the shore, through a hollow wooded dell, which bursts into a level valley at the rocky base of the steepest side of the mountain. Nothing can convey an adequate idea of these approaches but a model of the whole residence; a mode which I took advantage of on this occasion, in order to communicate my ideas with the requisite clearness.

The DRIVE is another variety of road; the intention of which being to shew the beauties of an extensive residence, or of the surrounding country, nothing can be easier than to contrive it. The chief art is, to shew only one species of rural character at a time. The drive designed for North Berwick first shews a magnificent forest-like park; then enters a dell, and suddenly bursts out of it to a naked, rocky, abrupt sea-shore: along this it proceeds some miles, without shewing any thing except the sea; it then turns into a fertile corn country, next enters the woods of Leughie, whence carriages may either return by the approach above described, or proceed to make a more extensive tour of the country.

LODGES are necessary both for approaches and drives. Those for the approach should be designed in a character analogous to that of the mansion; those for the drives should seldom be more than improved cottages, unless the situation suggest some

remarkable form. The idea of appropriating a country by stamping all such buildings, as well as others, with something which shall denote the continuation of the proprietor's estate, is only calculated to gratify vanity and ostentation. The truly great need nothing to make them appear so, and in the country will ever be more assiduous to render themselves agreeable to their neighbours, than to shew the unsociable disposition of monopolizing territory. With regard to their grounds, they will be ready with Marlborough, Argyle, Howard, and other noble proprietors of grand residences, to say with the Marquis of Ermeonville, "This (the farm) only is shut up; the three others (the wood, the forest, and the meadow) are open to every body; and I only wish that they should think themselves as much at home as if they belonged to them."

Gates are requisite both for entrances and other purposes; and to them are applicable the same general principles that have been submitted with regard to lodges. Both present ample scope for invention, which has been productive of two evils. The first, that too many designs have been published; and the second, that proprietorshave copied and executed these without any regard to natural situation, or the character of the mansion and residence. No one will require proofs of this, who has seen any thing of the country. With regard to economy and utility, Mr. Parker's remarks on gates are well deserving attention.

The FAMILY OFFICES, and those of the FARM, as well as the FARM itself, have been already mentioned. See ARCHITECTURE and AGRICULTURE.

The WASH-HOUSE and DRYING-ROOMS are frequently separated from the other offices for conveniency of water. Among the most complete hitherto erected, is that at Dalkeith: the drying-room is heated by metallic flues, which succeed much better than the iron cylinders used at Dunse Castle and several other places*.

The DAIRY is always a pleasing object, and should therefore be designed in a form, and placed in a situation which will have some effect, and at the same time where it will not be injured by the extremes of temperature. Dr. Anderson's plan of having double walls and roofs will answer this purpose in the completest manner. Hollow walls, or walls having a vacuity between the lath and plaster eight or ten inches wide, will answer the same purposes sufficiently well for ordinary cases. If a spring, fountain, or *jet d'eau*, can be contrived to burst forth

* A washing-machine on a new plan is at present constructing by a friend of mine for the Society of Arts, which it is hoped will prove much superior to any yet devised, and which will certainly alleviate the most laborious parts of female domestic labour.

in the centre of the principal apartment, it will prove highly serviceable to the dairy-maid.

Cowhouses, &c. are often kept separate from the other offices, and erected at no great distance from the dairy. Placed within a grass paddock, and grouped with stacks of hay or straw, and some trees, they often form interesting combinations.

The poultry-houses require some attention from the designer in laying out a residence. Their site should be naturally warm, and well sheltered by high walls, near the yard, and wood* at some distance. The apartments for the more delicate birds should be heated by flues.

The pheasantry should be constructed near abundance of woody cover, which should be inclosed by a high fence, and the

* There are many mistaken ideas extant respecting shelter. Wood and trees break the violence of storms, either of wind or snow: but after rain, or the melting of frost or snow, they really produce cold, from the evaporation which of necessity takes place on the leaves. All moist surfaces do this on the same principles. Perhaps the best trees for shelter are spruce firs, which from the resinous quality as well as linear form, of their leaves, do not retain much moisture. Hence when it rains on them, the water falls to the ground, and sinks through the decayed leaves on its surface into the soil, and consequently little evaporation takes place. Perhaps from this may be deduced the chief reason why the spruce delights in a moist soil.

young may be soon allowed to run at pleasure through this inclosure, as at Foxley, Hulne Abbey, &c.

The AVIARY may be placed near the mansion. A wire netting should always inclose a large space (perhaps near a quarter of an acre) containing water, lawn, trees, shrubs, plants, &c. and connected with a glass-house. This glass-house may contain the exotic birds and fishes: part of the others may be placed in cages, and hung on different trees or bushes; and the rest may fly throughout at pleasure. The aviary of Rousseau, as described in his Eloisa, deserves attention in many cases.

The APIARY naturally belongs to the flower-garden. The well-known plan of glass hives, and Mr. Bonar's new improvements in their general management, are interesting, and merit attention.

The PIGEON-HOUSE, an ancient appendage to nobility and grandeur, may often form an interesting object, and should always be of an elegant form, and kept clean and secure from vermin, in order to ensure the abode and prosperity of the inhabitants.

FISH-PONDS in inland countries can only be made of fresh water: they are of several kinds; as those for *breeding*, *rearing*,

feeding ; and those for such fish as *devour* others, as pike, &c. Often, and generally, these ponds may be rendered picturesque objects*.

Fish-ponds of *salt water* are chiefly for the purpose of preserving fish alive until wanted. They are easily formed by making a deep excavation on the shore, and inclosing it on the side next the sea. They should be so deep, as that during the ebbing of the tide they may still contain a considerable quantity of water, which will be renewed during every influx of the tide. Such a pond, used for this purpose with excellent effect, may be seen at Laggan. The idea was suggested there by a natural hollow, and improved on by the ingenuity of the proprietor.

Every useful building is always an apology to the improver for finding a picturesque object or composition. Even DOG-KENNELS will effect this purpose. They should always be placed distant from the mansion, as well as excluded from the most exquisite passages of scenery. Those at Belvoir are excellent ; but their situation will probably be regretted by some, who can look forward to an obvious and grand improvement which might be effected in the valley wherein they are placed.

* For a full treatise on this subject, see Bradley's Husbandry, and Marshall's Kitchen Gardener.

The ICE-HOUSE should be formed in a dry knoll near water, with double or very thick walls, a well at bottom, and a drain on the principle of the syphon, which, while it admits the water to escape, does not admit air to enter. It should have double doors, and both must be closely fitted. The earth over it should be of considerable thickness, and should be planted with lowgrowths and shrubs, either with or without trees. The lowgrowths alone on the very top of the ice-house are preferable, as their roots do not penetrate the masonry, and as their tops, by forming a close covering upon the surface, stagnate the air, and prevent the access of heat, better than trees alone, which leave the surface of the ground in a naked state.

TENNIS-COURTS, AND BOWLING-GREENS, are more properly included under the conveniencies of a residence, than under gardening, or picturesque improvement. Their formation is simple, and their effects sometimes interesting, as at Dundas Castle, Woburn, &c. See SWITZER's *Ichnographia Rustica.*

Some other buildings might be mentioned ; but none of any importance are omitted, except cottages, and some other building, which, as not being properly the conveniencies peculiar to a residence, are already treated of, either under Architecture or some of the branches of Husbandry.

BOOK II.

PART I.

THE

PRACTICE OF FORMING A COUNTRY RESIDENCE,

OR IMPROVING SUCH AS ALREADY EXIST.

INTRODUCTION.

HAVING treated separately of what may be called the elementary sciences, or theory of forming a residence, I next proceed to the union of these sciences in the mind of an artist; or, in other words, to the practice of designing and executing rural improvements. From the unlimited variety of natural situations, and the great diversity in their use and object, according to the views of the proprietor, the application of these sciences is unlimited. All that can be done, therefore, in a work of this nature, is, to lay down general principles, and apply them to the most striking examples; whence the reader may be enabled to judge of their application in every case that can

occur. The remarks offered shall be included under the following heads: 1. The leading principles of union. 2. Of forming the design, or general plan of improvement. 3. Of forming an estimate of the expenses. 4. Of execution.

CHAPTER I.

OF THE LEADING PRINCIPLES OF UNION.

We have seen, in Book I., how each component part of a residence may be designed and executed; we have there also seen how component parts are united into a whole; so that it may almost seem superfluous to repeat that the same leading principles are to be combined, as in forming a residence—these principles are *unity in the whole, and connection between the parts.* Every whole, whatever be its nature, must be formed upon these principles, and upon these alone. It is true, this has seldom or never been properly practised, because not hitherto understood. The intricate operation of forming a country residence has been supposed to be guided by many different principles. Mr. Repton observes, "the perfection of landscape gardening (under which he seems to include every thing relating to this subject)

consists in the fullest attention to utility, proportion, and unity, or harmony of parts to a whole." Such confusion and redundancy of terms convey no ideas to the mind, and leave the author at liberty to adapt his practice to his principles, which are applicable to every thing or nothing. After mentioning Mr. Repton, the only landscape gardener by profession who has written on the subject, it is unnecessary to speak of many of his cotemporaries, who in all probability are still less able to define their ideas. From this reason, none of them can expect to put their notions in practice with the same effect in real nature, as is done in the imitative arts. In poetry, painting, architecture, music, no less than in the finest natural scenery, there are characteristic ideas which present themselves on the first inspection of any part. Thus the first ornaments, columns or battlements, which we see in a house; the first verse in a poem; the first glance at a picture; the first bar of a piece of music; or the first movement of a dance; all communicate ideas of what is to follow, by the parts indicating a relation among themselves, and uniting in expressing one particular sentiment, or raising one kind of emotion. This has never been attended to in laying out a country residence—though it is striking in some scenes of nature, and perhaps on no residences more so than at Foxley and Havod, if the improper situation and form of the buildings at both places did not interfere with the ideas. No plan is perfect, however, or is ca-

pable of being ranked as a composition of the polite arts, till such ideas be raised: however great may be its "*utility*, or *proportion*, or *scale**."

There can be no doubt that words alone will ever fail of making an artist master of this essential excellence; because without much study, and perhaps what is called natural genius, words will ever fail of making a good poet, painter, or musician; but still, to shew the man of taste how it can be done generally, I proceed to offer a few remarks on applying the leading principles to different natural situations which are to be *heightened* in effect, and some also which are to be *counteracted.*

1. Suppose a situation by nature GRAND or SUBLIME. This estate is very extensive. The surface of the ground intended for park, does not consist so much of undulations or abruptnesses, as of large plains, broad swells, and wide vallies. It is bounded, on one side, by a range of immense mountains; and, on the other, washed by the irregular shore of the ocean. Every natural feature being grand, the operations of art must bear a correspondency in manner. The principal materials for improvement are wood and buildings. Near the centre, in the most striking site, let a palace or castle be built, of large dimensions, with an extensive front looking towards the

* The principles which Mr. Repton assumes.

sea. Place the wood, not in small groups and single trees, but in massy thickets and dark forests,—not bounded by a line of insipid curves, but by bold projections, and deep obtuse angular recesses, forming large bays, and broad irregular prominences. The predominant trees in those masses must not be poplar or willow, but the more noble oak, elm, and chesnut. While some of the mountains, partly bare, shew immense perpendicular rocks, towering from dark woody chasms; let others be totally clothed with wood; and, throughout the whole range, as far as may be practicable, let "hill be united to hill, with sweeping train of forest, and prodigality of shade." To correspond with these general features, every *part*, as the offices, gardens, farm, roads, &c. must have a greatness of manner and dimension corresponding with the general character of the whole, and a connection suitable to the uses and relative beauty of each part. Thus: at the extremity of the estate, on the side of the highway, let two lodges be placed, of considerable dimensions, and at a proper distance from each other. Let the gate between them be of ample size; and from thence let a broad road or approach proceed, in great irregular sweeps, sometimes through forest scenery, and at other times through open park or pasture, until, at last, it begins to ascend from the vale, and, bursting from a thicket, the castle itself appears to view, embosomed in wood and backed by the amphitheatre of mountains.

2. Suppose a situation, the natural character of which is chiefly BEAUTY. This estate, not very large, is situated on a small eminence, sloping with gentle undulations toward the south. The surface in general is smooth, beautifully waved, and clothed with a carpet of the freshest verdure. It is surrounded by a country abounding in little hills and lakes;—the former varied by pasture, cattle, corn-fields, and villages; and the latter by islands and fishing-boats. The natural character of this place, then, is beauty, in the limited sense of the word; that is, beauty with the least mixture of the sublime and the romantic. It is to be improved by the addition of wood, to give intricacy; and with beautiful buildings, for character, ornament, and utility. Upon a convenient swell, backed by a little hill, build an elegant Grecian villa. Clothe the hill behind it with wood, and vary the park with light and airy groups of ash, beech, and lime, gliding into each other, and connected by thickets covering the eminences and swells. Let honeysuckle and virgins'-bower twine round the stems of the more detached trees, or hang in graceful festoons from their branches. Let the pasture be cropt by horses and cows, and kept smooth by the bite of sheep and lambs: all of which intermingling among their stems will form groups expressive of rural gaiety and beauty. Vary the kept ground with the most elegant shrubs and flowers. Lead one of the springs in a murmuring rill to a little valley, and there let it spread into a crystal lake,

the banks of which shall be beautifully fringed with luxuriant vegetation, and varied with roots, stones, and harmonious tints of soil. Every other part of this place must be easy, graceful, and natural, not forced and laboured; in every operation keeping it strictly in view to form the most pleasing combination of beauty and picturesqueness, in which the emotions excited by beauty or loveliness shall predominate.

3. Suppose a situation, the natural character of which is ROMANTIC. This estate, which is more extensive than the last, is occupied partly by a hollow, and partly by the surrounding hills and mountains, which, with hanging rocks and craggy cliffs, are greatly diversified in figure and appearance. It is interspersed in many places with rivulets, which tumble down the sides of the mountains in hollow rocky dingles to a considerable river, whose smooth stream meanders slowly through the lowest part of the grounds. From the irregularity of the surface, the rocks, stones, and diversity of soil, the whole estate assumes a somewhat clothed and picturesque appearance, even with the little wood naturally there; and it is easy to conceive, that this may be made a singularly delightful residence, by following out that which nature has begun. But though this residence should be covered principally with wood in pine groves, rough thickets, groups, and tufts of wild lowgrowths, yet huge masses of rock will be seen rearing their heads on the

sides of the wooded hills, imbedded on the sides of the dingles; and scattered fragments, partially covered with mosses and low-growths, will enrich the banks of the water courses; the broken surface of the ground will shew the different tints of earth, overhung by various wild plants, ferns, and creepers; while deer, goats, wild horses and asses, will be seen sauntering in the woods, skulking among the thickets and bushes, or grazing in the winding glades of forest scenery. In connection with this general style, carry through one of the wooded dells a shady road, which shall ascend to some striking site, where the mansion is to be erected in a style of architecture analogous to the surrounding scenery. Though the general appearance of the whole, and the design of every part, should be romantic, yet in some of the scenes, utility, and in others, beauty, should be the prevailing ideas: the farm, kitchen garden, &c. should still be useful, though tinctured as it were with the romantic; and the parterre, though more elegant and beautiful than any other part, should still retain so much of the general expression as to remind us of the character of the residence. The beauty that it presents will be a sufficient contrast to the rest of the place, and will consequently strengthen its effects without being itself an incongruity. It will be to the whole a contrast, but not a contrary or opposite.

In the foregoing situations, it is supposed that the wishes and

property of the proprietor permit the full expression of the natural characters, and also that these characters which nature presents are agreeable of themselves; but there may be situations where the reverse of this is the case; and some of those shall next be noticed.

1. Suppose a situation where the soil is good, but the surface a perfect flat, and expressive of nothing but MERE EXTENT. This is certainly not a favourable situation, especially if water be absent; but still it is capable of immense improvement; and the character of beauty or grandeur may be raised by wood* and buildings placed in a manner corresponding with

* The reader will always recollect, that when I mention woods, or the character which may be communicated to landscape by trees, nothing is further from my view than the general insipid and monotonous mode of planting. On the contrary, I always consider trees as capable of producing character in two ways: first, from the particular kinds employed; and, secondly, from the usual disposition of trees in general. I hesitate not to say, that neither modes are understood by improvers. How different the character of a park on a perfect flat, where common trees, as oak, elm, &c. and undergrowth of thorns, briar, furze, is disposed in the forest style, from that of modern clumps, open groups, and dotting! But how much superior, even to this, must be a park where not only the trees are disposed in the forest style, but these trees themselves are singular characters, such as cedars, pines, cypresses, and the undergrowth junipers, savin, arbor vitæ, arbutus, &c. By this mode the most insipid flat would be rendered superior to the finest park in England.

While mentioning this subject, it is with pleasure that I express my general approbation of the mode of planting adopted at Fonthill: a situation which, without doubt, is capable of being made one of the finest residences in England. I must remark, however, that there are certain littlenesses—rock-works, collections of roses, flower knots, dug patches, &c. creeping into the general scheme, which, unless

those ideas; or, that of surprize and wonder may be excited by the appearance of art, by avenues, terraces, ponds, statues, buildings, &c. but this last expression can only be desirable in the immediate vicinity of great towns or cities, where the immense concourse of spectators will correspond with these appearances, and prevent the proprietor from becoming weary of them. Such is the case in many French gardens, and such a scheme might be carried into execution at London, Edinburgh, or many of the great towns of Britain, where the proprietor was willing either to throw his grounds open to the public, or continually to see company. In any other situation, or upon any other principle, such works of art should not be attempted in an improved and highly cultivated country, because they would soon cease to please and become disgusting. In general, therefore, in flat situations, art should imitate nature in producing the desired character, either of beauty or grandeur; at least as far as regards the materials which she can command. See the management of all these *materials* and component *parts* in Book I.

either totally eradicated, *kept under*, or removed to appropriate situations, will very materially injure the effect of the whole, and will degrade it to the rank of Stow, Hagley, and the Leasowes. I trust, however, that these, and many other things, will be improved on, and especially the water, which is capable of unlimited beauty. It is impossible for me not to feel a high degree of interest in the success of that place, which, when finished, will probably contribute more to the establishment of my ideas of Picturesque Improvement, than any thing that I can write. It will at least be an exquisite model to shew what may be effected, where *taste* is made to triumph over *fashion and system*.

2. Suppose a situation absolutely DISAGREEABLE, from the surface being sterile, full of bogs or morasses, which send out deleterious exhalations; and with regard to visible beauty, just so uneven as not to be denominated level, but at the same time with these unevennesses not so marked as to entitle them to the appellation of variations. Such a situation, strange as it may seem, is commonly capable of being rendered a more characteristic residence than the former. Draining, and agricultural improvement, will destroy every thing noxious to health; and visible beauty and character may be restored by humouring or heightening the natural surface of the ground, and by the judicious disposition of wood, buildings, &c. Several situations of this kind occur in the low country of Scotland. The Whim is an example, which was improved in regard to utility by the late owner; but it is still deficient in picturesque beauty, unless meagre belts and clumps of fir, and a red *clump* of masonry used as a mansion, be considered as in good taste.

3. Suppose a situation of an UNSUITABLE character: perhaps one naturally grand and extensive, but where a small family wishes to retire to an humble cottage, and chooses to purchase only a small part of the natural situation. Here the hints for forming a beautiful residence must be applied, to counteract the tendency to grandeur. At the same time, the diminutive size of this beautified spot will not often injure the character of the whole in the general prospect of it.

Thus, a cottage on the brink of an immense precipice, or a farm-house on the margin of the ocean, partake of the sublimity of their situations. But, should every other object seen from these be shut out with trees, and on entering this woody thicket the cottage or farm-house were viewed by itself, their original characters would be fully preserved, although, in a prospect or bird's-eye view of the country, the mass of wood on the precipice containing a cottage, and the thicket by the seashore containing a farm-house, would retain the previous character of sublimity.

There are, however, great men that can retire to an humble retreat in the most sublime situations, and with the grandest objects in nature continually in view, which would only stimulate them to analogous exertions*, either of intellect or heroic worth. And, there are some minds not already fully formed, which the constant view of grand objects, and the contemplation of the heroism of their ancestors, will incite to noble actions. But there are others exhausted by misfortune, and so habituated to melancholy, as to be prompted to diminish their own appearance in the scale of existence. In a sublime habitation,

* Since writing the above, I have found the following observation of the French legislator *Creuzé de Lesser*, in his Tour in Italy: speaking of the passage into Savoy at Beauvoisin he observes, " Peu de spectacles sont plus imposants que cette entrée de montagnes, sur-tout pour quelqu'un qui n'en a pas encore vu. *Voici le pays des grandes pensées et des sensation profondes*, et il y a bien loin d' ici à Bagatelle et à l'Opera-comique."

such persons feel their own disproportion to every thing around them, and thence degenerate into incurable despondency*.

It is almost unnecessary to add, that a situation naturally BEAUTIFUL can be rendered comparatively GRAND, where this character is suited to the wishes and property of the proprietor; or, that a situation partly picturesque and partly beautiful can have either of the characters heightened. A cheerful place, on the same principles, can be made more solitary, a wild one more cultivated, or the contrary. The whole is easily done by a varied application of the principles which constitute these differences of expression.

These general hints are equally applicable to the design of principal, summer, or occasional residences, in these situations; to the princely palace, the baronial castle, the elegant villa, or the humble cottage. To treat of the particulars of each of these, would be to repeat much of what has been said in the former book. The purpose in view, will ever be a sufficient guide for a designer to make any little variation in the parts necessary to promote these ends.

* "An air of greatness has always something melancholy in it (says Rousseau); it leads us to consider the wretchedness of those who affect it. In the midst of these grass plats and fine walks, the little individual does not grow greater; a tree twenty feet high will shelter him as well as one of sixty; he never occupies a space of more than three feet, and in the midst of his immense possessions is lost like a poor worm."
Julia, or the New Eloisa, 317.

CHAPTER II.

OF FORMING THE DESIGN, OR GENERAL PLAN, WHETHER FOR THE ENTIRE FORMATION, OR FARTHER IMPROVEMENT, OF A COUNTRY RESIDENCE.

Before any thing is fixed upon, relative either to the formation or improvement of a rural residence, or any of its parts, principal or complex, a plan or ideal scheme of the whole should be previously formed in the mind of the artist, and embodied on paper for the inspection or mature consideration of the proprietor and his friends. For this purpose, the situation should be fully examined with respect to soil, visible beauty, and prospect, and also the relative advantages and disadvantages of climate, &c. The best method of acquiring such knowledge is, to visit the place at different seasons, before completing the design. In this manner, observation may embrace and reflection digest the emotions excited in the mind of the artist by its diverse qualities.

The ichnography, and bird's-eye views, of the present state of the whole must first of all be delineated, and geometrical sections made, where water, or similar works, may be sug-

Fig. 1

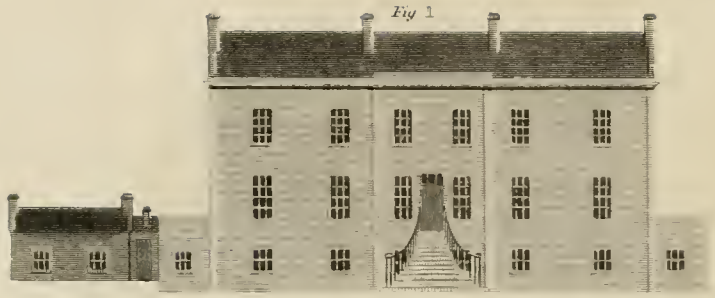
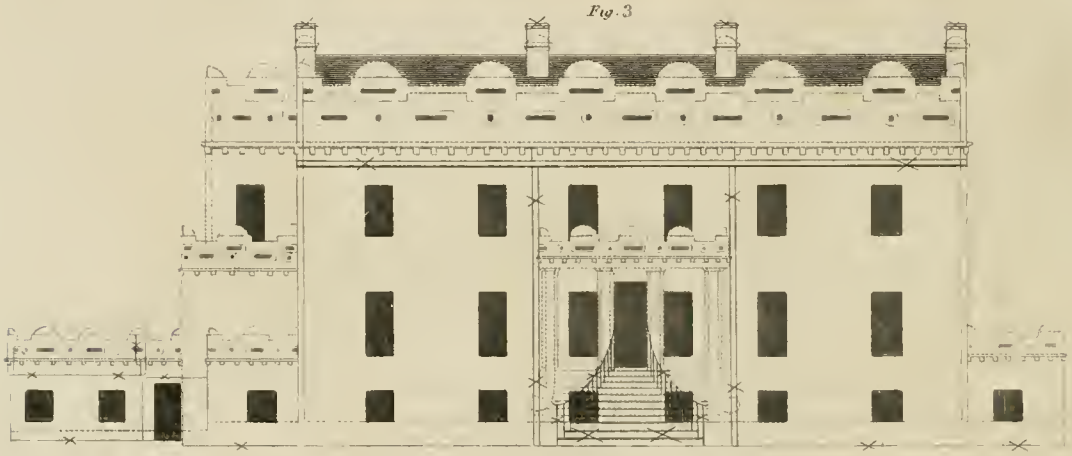


Fig. 2

Elevation of the front & end of Barnbarrow House as they appeared in 1805.

Fig. 3



The dotted lines in this elevation shew the additions to be made; the crosses (×) those parts to be concealed, or removed.

Fig. 4

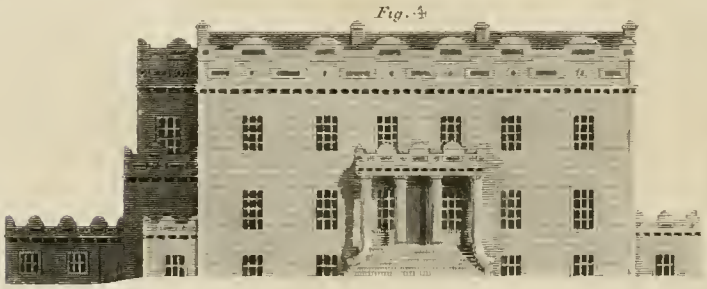


Fig. 5

Elevation of the front & end of Barnbarrow House, as altering agreeably to figure 3.

J. London del.t

J. Greig sculp.

Published May 10th 1806 by Longman Hurst Rees & Orme Paternoster Row

gested. Upon these, especially the ground plan, the designer may slightly sketch with *red*, or any striking colour, the proposed improvements, as is done in Plate XVI. fig. 2., by the dotted lines upon the ichnography of figure 1.; or, as is done on buildings, in the elevation fig. 3. Plate XXI. After this he should make out a plan, bird's-eye views, sections, elevations, &c. shewing what will be the effect of the proposed improvements at a certain future period, suppose three or seven years, after they have been executed. This should be accompanied by perspective views of the most interesting passages of the scenery, or of buildings in their present state; and by other sketches, shewing the effect of improving them, as is exemplified in Plates XIII., XIV., XV., XVI., &c. and in elevations of buildings in Plate XXI. and in the perspectives of them, in Plates XXIX. and XXX. &c. The whole, except the larger ground plans (which may generally be fixed on canvass and rollers), should be incorporated with a manuscript volume, giving some account of the present state of the place (which will always be interesting after the alterations are made), and mentioning the leading reasons for proposing the improvements, and the general directions for executing them. Either here, or more properly in a detached appendix, should be given an estimate of the expense of the whole. In connection with these plans, &c. I have found it of great advantage, in very irregular situations, to construct models both

of the present state and proposed improvements; and not only of the buildings (as is also done by some architects), but also of the ground surface, the water, gardens, hothouses*, and villages, both in their present and improved state. I quote below† a concise account which was given of the models of

* Five different kinds of models in wood, of the principal improvements which I have introduced into hothouses, are sold at Mr. Dalziel's, cabinet-maker, Chapel-street, Bedford-row, London; and at Messrs. Dickson and Shade's seed-ware-room, Edinburgh. They have proved of great service to gentlemen, by enabling their workmen to construct these useful improvements with ease and certainty.

† "We understand that Mr. Loudon, the author of 'Observations on Planting,' &c. has just invented a very ingenious method of modelling estates, which will be of immense advantage to landed proprietors, particularly those intending to improve, decorate, or build. The variation of the surface is shewn exactly as it is in reality; and all the trees, hedges, roads, rivers, buildings, &c. are accurately raised on it, agreeable to a certain scale; and, afterwards, the whole is coloured from nature. A manuscript volume of references, contains the names of the different farms and fields, the contents of each, and the nature of its soil, &c. with every other requisite information. Mr. L. has also a curious composition, which may be used without any previous preparation, and by which any gentleman may try, upon the model, the effect of any proposed alteration or improvement: and also a small wire net, each *mesh* of which is equal to an acre, by which the contents of any part may be instantly known, by applying it, and numbering the meshes which cover the field or space to be measured. From the nature of the model, any changes which may afterwards be made in the ground, can be inserted without injuring the piece; and hence no estate will ever require to be remodelled. Remarkable objects upon an estate, such as the Mansion-house, &c. can also, to give a clearer view of them, be modelled separately, upon a larger scale than the general plan.

At first sight, the unwieldiness and bulk of a model would seem an inconvenience; but by dividing it into separate parts (which parts are kept in a small chest or box, and may be taken out and fitted together in a few seconds,) it occupies little more room than a plan.

North Berwick in the Farmer's Magazine for 1805. I have since made several improvements in the method of construct-

" The advantages which Mr. Loudon thinks will attend this mode of imitating estates, are the following, (viz.)

" 1. A proprietor will see a correct imitation or miniature of his estate, in the clearest manner, and without the risk of being misled or deceived by a plan.

" 2. Every proposed alteration or improvement, of whatever kind, will be clearly understood, and may be so pointed out to workmen as that they will execute it with superior ease and certainty. In planting and forming country seats, this will be of immense advantage; and, as a further assistance to it, Mr. L. has also invented a kind of *working plan*, which will enable workmen to execute exactly the arrangement of trees, shrubs, and flowers, about any place, agreeable to the principles explained in ' Observations.' (See Part VIII. of this Work.) Those who understand the mode of arrangement alluded to, and can compare it with the common mode of mixing all sorts of trees indiscriminately, will be convinced that this improvement is of great utility.

" 3. The effect of every alteration proposed may be clearly seen before it is executed; whether it be the effect that changing the lines of fences, roads, &c. will have in altering the contents of the adjoining enclosures (and this can be instantly found by using the wire netting); or the effect of the addition of wood or buildings, whether useful or ornamental. It is needless to add, that the scheme of improvement can be altered and varied upon the model, until the best effect shall be produced, which effect may afterwards be exactly imitated upon the grounds. Making trials, on the model, of the effect of alterations, will form a very instructive and rational amusement for proprietors.

" We have seen, at Mr. Loudon's, two models of the North Berwick estate; one shewing the present appearance and contents of the estate in general; and the other showing the effect of an intended new place of residence for the proprietor (Sir Hugh Hamilton Dalrymple). In addition to this last model, an elegant manuscript volume, illustrated by drawings and sketches containing Mr. Loudon's ideas of the situation; his reasons for proposing the improvements, and practical directions for executing them; accompanied with *working plans*, a large *vertical profile* shewing the effect of the whole, and a general estimate of the expense, &c."

See the Farmer's Magazine for February, 1805.

ing them; so that ten thousand acres of surface may be modelled on a sufficiently large scale, and the weight of the model will not exceed five pounds, nor be in the least danger of being broken or tarnished: and, what certainly deserves the consideration of the landed interest, estates may be modelled in this way for little more than the expense of a common survey. On this, however, I shall offer more on some future occasion.

The neglect of improvers, in not pre-conceiving a plan of the whole before proceeding to operate upon the parts, has often occasioned them much useless expense and trouble, of which they are commonly not aware until it be too late. So many instances of this occur in every part of the country, that it is astonishing they should not be more cautious in embarking in such extensive undertakings without a much greater certainty of success. Even some who have formed and arranged a plan in their minds previously to proceeding, have misconceived effects from deficiency in practical knowledge; and have often gone farther wrong than the others, from a false estimate of their own powers. The neglect of having a plan from an artist, which will at least always furnish *some* hints, is generally adverse to the real interest of the proprietor; as could easily be proved, were it not that the whole of this PART of the work is too nearly allied to the most disagreeable species of egotism to admit of much amplification. Mr. Lugar very justly remarks,

in his introduction to Architectural Designs, that gentlemen who consult their own interest will consider it just as necessary to have the opinion of an artist before they begin to improve, as to consult a lawyer or a physician on the requisite occasions.

——————— secure in all,
Taste, wisely judging, often saves expense.

CHAPTER III.

OF FORMING AN ESTIMATE OF THE EXPENSES.

In conceiving the design, the artist must accommodate its extent and cost to the wealth of the proprietor, or the sum allowed for the purpose of improvement; and after he has formed the plan of the whole, he must proceed to make a general and accurate estimate of the expenses that will attend its execution. This is too much neglected, and is always productive of the worst consequences: it too often disgusts gentlemen with rural improvements where artists have been employed, and frequently occasions them to be left unfinished.

In making an estimate before the plan is marked out upon the grounds, or made public, the artist must depend upon his

own practical knowledge, in conjunction with that of practical men who live at the place. But after the design of improvement is sanctioned by the approbation of the proprietor, such parts as are to be executed by estimate should be marked out on the spot, and then the respective mechanics and artisans advertised for, in order that each may give in his estimate and proposals. By this means, whether in building, planting, forming water, roads, or fences, if the estimates of honest and duly-informed men be taken, the proprietor will get the work done in the most economical manner. But whether a proprietor ought to adopt this mode, or see the whole done under his own directions, and by day-labourers, must depend upon circumstances. In general, I may remark, that where he is to be frequently or totally absent from the estate, there can be no doubt which is the proper mode. When present, he will generally find it preferable to undertake large and small jobs at his own risk and by day-labourers, and to have middling ones done by estimate. The reasons are obvious: small jobs are trifling, and are not worth the attention of an undertaker who lives at some distance, unless he be paid extra charges: and for very large ones, the proprietor forms an establishment on purpose, upon the same principles as practical men do, and thus he may be said to get the work done at the trade price. By a very large job in building, I mean a mansion, or a number of buildings to be erected at the same time, which may be estimated at upwards of £10,000. Here the architect, or designer, should send a

superintendant to conduct the whole, agreeably to the approved plans; to take in the estimates of workmen for small jobs, as quarrying, hewing, furnishing materials, &c. and to make stated reports of the progress and expenses to the proprietor's steward or attorney; from whom he receives money to make the requisite weekly or monthly payments. A large job in planting is when upwards of five hundred acres are to be planted or sown; and here the proprietor should engage a person well acquainted with the nursery business, who shall form a nursery, and every year plant so many acres, until he has completed the whole. From what I have seen and experienced, I have every reason to believe that these principles are well founded.

Nothing can be a more profitable and agreeable recreation, than for a proprietor in person to be inspecting, and occasionally making enquiries into, the business going on at his residence, whether in extensive works executing by estimate, or in larger ones done on a grand scale. And nothing will contribute so much to health and good spirits, as designing and directing the execution of small jobs by his own labourers. These jobs, gradually completing under his auspicious eye, from rough outlines, become finished pieces. A general outline laid down, and gradually filled up, in this, no less than in every other condition of human life, is one of the most permanent sources of heartfelt satisfaction and rational entertainment.

CHAPTER IV.

OF MARKING OUT IMPROVEMENTS ON THE GROUND, AND OF SOME PRACTICAL OPERATIONS OF EXECUTION.

The first thing necessary, in proceeding to execute any part of a plan, is to mark it out upon the grounds. The judicious and *true* performance of this depends upon an experienced eye, and a knowledge of practical mathematics, especially geometry in its various branches. The rules for marking out the ground plan of a building, garden, or any object containing many regular figures, are perfectly simple; they are deduced from two well known problems, viz. "Three points not in a straight line being given, to find the centre of a circle which shall pass through them," from which every thing relating to the protraction of circles, ovals, and ellipses, may be deduced; and "the erection of a line perpendicular to any given one," to which may be reduced every thing relating to straight lines, squares, and angular forms. The execution of these problems, and every variety between them, is simple*, and needs no com-

* Those who wish for more ample information on this point, will find it in Switzer's and Le Blond's Treatises on Gardening.

ment. The methods of taking the levels of irregular ground, so as to calculate with certainty upon the removal of earth in the formation of terraces, gardens, or roads, is equally simple; and may either be performed by a mason's plummet and straight edged mason's rule, or by a small pocket spirit level. The method of proving the effect of buildings by skeletons of boards—of trees by flag-posts—of water by linen extended upon the ground—of cutting avenues through woods by lanterns, and many such things, are either sufficiently known, or are of use only to the artist, and therefore do not require to be mentioned. Modern improvers would do well to revise their geometrical knowledge; for now, that the formation of platforms and artificial mounts, &c. is grown out of fashion, the art of accurately measuring and calculating upon the removal of earth is forgotten or neglected, and disorder, absurdities, and much useless expense, are too frequently the consequences. Were it not invidious, I could refer to striking instances in different parts of the country of England.

After these hints I offer a few remarks on some general operations of execution, which are brought in here with more propriety than under any of the separate elementary branches of the art of forming a residence.

Ground may either be removed by manual labour *alone*,

combined with that of horses, or by the *artificial application of mechanical powers*. *Manual* labour, that is, with the spade and wheelbarrow, is proper on small or confined spots; and in others where the distance that the earth is to be wheeled is not above fifteen or twenty yards, or when it is to be moved down a sudden declivity. *Combined* labour is proper in other more extensive cases; as, in laying land level, or smoothing ridges by the new machine*; or merely by repeated ploughings and harrowings, which answer the same purpose, and might often save much expense. The application of *mechanical* powers is either by means of gunpowder, which may soften or disperse hard stony knolls or excrescences, which it is desirable to remove, or alter in form; or by directing a current of water against softer soils. This last mode will produce wonderful effects, as has long been demonstrated at Blair Drummond, and was some years ago shewn at Netherby, where the water of a small rill was collected in a pond, and always, when full, let out in a small rapid stream against a knoll; which was thus entirely removed, at little expense, and in a short time†. In every case of the removal of earth, care should be taken not to have it to move a second time; and also, in depositing it, always to keep the best soil uppermost; and though dispersing

* See Tilloch's Philosophical Magazine.

† See Gilpin's Tour to the Lakes for a full account of this operation.

it with a view to beauty does not belong to this part of the work, yet it may not be amiss to remind the improver, that a very few cartfuls of earth will turn a considerable extent of the most beautiful surface into an ugly one, by distributing it in the concavities; and, on the contrary, a very few cartfuls taken from the concavities of an ugly surface, and judiciously spread upon the eminences or convexities, will restore beauty. Ground-workers, who are ignorant of this, never fail, in removing earth, to spread it in the hollows; or, if they have no hollows to fill up, nor undulations to round off (as they term it), their next step is to lay it down in heaps here and there, and form these into little round bumps, which are the most disgusting kind of deformities. When these bumps are large, they stick a clump on the top of each; when small, a single tree.

In forming HEADS FOR PIECES OF WATER, the materials should be as ponderous as can be conveniently found; and if not of a nature to prevent that element from oozing through, a wall of clay should be carried up the centre of the head. All water on gravelly soil should be puddled with clay, chalk, adhesive loam, or common earth, well comminuted and incorporated with water in Brindley's manner. Upon this retentive stratum should be laid a covering of earth or gravel, to preserve it from being injured by cattle or other accidents.

For more particulars respecting the preservation of water, see Marshall's Rural Œconomy of Yorkshire, Le Blond on Gardens, and "The Art of Fountains, by F. J. Francois*."

* This author recommends *boring* for the discovery of springs, and probably suggested the first hints of Elkington's Mode of Draining.

BOOK II.

PART II.

OF THE

PRESERVATION AND MANAGEMENT OF COUNTRY RESIDENCES.

It may be premised here, that in treating this subject I do not mean to include the management of landed property in general; excepting wood. This material, as it is in every part of an estate not only valuable but highly beautiful, whether as standing groves or woods of timber, or young plantations, I propose to come under the same manager as the timber of that part of an estate which surrounds the mansion. Neither do I consider it necessary to offer any thing respecting the general management of a household, or of game, fishery, &c. nor to interfere with the duties of land-stewards: all these

being foreign to my purpose here, which chiefly relates to the proper preservation of the beauty and use of that part of an estate adopted as a residence, and of such other woody scénes as are natural, or have been formed upon just principles. According to this idea, the management of an extensive country residence may be divided into the following heads: 1. The Kitchen Garden and Orchard; 2. The Farm, Pasture, and Live Stock. 3. The Ornamental and Picturesque Scenery. 4. The Woods *.

1. The KITCHEN GARDEN AND ORCHARD.—These, from their obvious connection with regard to use and situation, should be under the general management of one person. His business consists of three parts.

1. The first is, to provide wholesome fruits and vegetables for the family, of the kinds, and during the *seasons* in which it may require them; whether this be accomplished by simple cultivation, forcing, or artificial preservation.

2. The second is to keep every thing under his care in proper order and elegant neatness; so that every part may please the eye when examined, whatever may be the time, place, or

* It is almost unnecessary to observe, that smaller residences may be managed on a much more limited scale, according to their extent and beauty.

season of the year. Thus walks must always be kept free from weeds, moss, worm-castings, roughnesses, earthy places, decayed leaves, &c.—their edges preserved regular and uniform; and the borders on each side well cultivated according to their natures, whether they contain culinary vegetables, fruits, shrubs, or flowering plants. Trees, whether placed against walls, or espaliers, or as standards in the quarters of the garden, must be regularly trained and pruned at the proper seasons. The ground must be kept free from large weeds, decayed leaves or roots, and should also be regularly cropped according to a fixed rotation. Hothouses should be preserved clean, wholesome, and free from insects, &c.

3. The third business of a kitchen gardener is, to renew, or provide for the renewal of such parts as become useless, whether from age or accidental circumstances, and to place proper substitutes in the room of such things as become useless from change of taste or fashion in the proprietor. Thus he is to renew the gravel of the walks, the espalier rails, the paint of the hothouses, the tools or implements of cultivation, and those fruit trees which are no longer capable of bearing; and when one sort of fruit is in disrepute, he is to place others in their stead, by ingrafting, or total removal, and the introduction of new plants, &c. This branch of a gardener's duty is much neglected; as appears from the slightest

observation: a misfortune which may be attributed to the frequency of change in this class of servants. A gardener capable of doing his duty properly should be well versed in his profession, docile, and intelligent. He should have under him three sub-foremen; one for the *culinary vegetables*, another for the *fruits and orchard*, and a third for the *hothouses and hotbeds*. He should have occasional opportunities of seeing other gardens, that by viewing and comparing the practices of others, he may improve his own, and thus become emulous, industrious, and of increasing service to his employer.

2. THE FARM, PASTURE, AND LIVE STOCK.—The duties of a bailiff, or gentleman's farmer, may be divided similarly to those of a kitchen gardener; viz. to provide the necessaries which constitute the utility of his province; to make this province agreeable to the view and examination of his proprietor, according to its capacity of producing beauty, and the nature of the pleasures which it is calculated to raise; and to renew or preserve it when decay, accident, change of taste, profit, or other circumstances dictate. His duties are less intricate than those of the gardener, but more important.

1. He must provide every requisite variety, and the proper quantity of farm produce, whether grain, legumes, roots, herbage, &c. or cattle, sheep, pigs, poultry, &c.

2. He must preserve propriety and decorum in every part of the farm, whether in the fields, offices, barns, rick-yards, dung-courts, or in the ordering of the different periodical labours; such as seed-time, hay-time, harvest, &c.

3. He must keep machinery, implements, buildings, walls, hedges, drains, &c. in repair; renew aged cattle or horses, and improve breeds of sheep, or dispose of them to the best advantage when not wanted for family consumption. For these and other purposes, he should have under him a *hedger*, or manager of the drains and fences; an *overseer* of the farm-yard and live stock not at pasture; and in extensive farms, a principal team and ploughman; but as the diversity of the kinds of farms is great, these will vary in different circumstances and situations. A judicious bailiff will not overlook the practice of the neighbouring farmers—will study that of those under like circumstances with himself, attend fairs and markets, whether for the purchase or sale of stock, or for regulating the value of labour; preserving all the while sobriety, honesty, steadiness; increasing in intelligence and knowledge of his profession, and consequently becoming better fitted to discharge the duties of his situation, and ensure the approbation of his employer.

3. The ornamental and picturesque scenery, under which I include the ornamental gardens, green-houses,

exotic stoves, and every thing commonly included under the name of Pleasure Ground, whether near the house, or in distant parts of the Park. These ought all to be under the general superintendance of one person, who in residences where something of this kind occurs is commonly denominated the Flower or Pleasure Gardener. His duty is,

1. To provide flowers and flowering shrubs (either to be removed to the drawing-room in pots, or to be cut at all the requisite seasons) of the kinds which are most beautiful, or desirable by the proprietor, and in quantities suited to his demands.

2. He must preserve the proper character and beauty of every scene under his management; as the greenhouse, exotic stove, conservatory, &c. which he must have in proper order, and appropriately decorated at all seasons. The flower gardens, according to their different kinds and uses, must be constantly attended to, and a thousand little operations performed which it would be trifling to mention. Green lawns near the mansion must be kept mown; flowery lawns* kept from becoming too wild, and the groups of flowers and shrubs kept properly guarded from the sheep in other

* See pages 316, 317, of Ornamental Gardening.

places. The shrubbery must not only be cultivated during a certain period, but must also be thinned, and in some cases preserved agreeably to the principles of picturesque improvement. Water must be preserved in character, sometimes by emptying and clearing, at other times by improving the banks, thinning the bushes or aquatics, depositing gravel where it has become covered with pasture, and many other things. Views through trees must be preserved of proper form, so as to shew the distant scenery to the best advantage. Thus the foreground trees require to be pruned with a picturesque eye; otherwise the finest views are often lost or materially injured. Rocks, stones, roots, water, &c. in dells and dingles, require to be shewn or concealed with the same care, and upon the same principles, in order to produce beauties of the same order. Every scene where vegetation is concerned is annually changing, and every change which takes place must either injure or improve it. Hence the necessity of a very assiduous attention to this part of a gardener's duty, which is so important, and requires such a nice taste, that unless the proprietor himself has attended to the subject, the special directions of the picturesque improver (unfortunately for such scenery, few will be willing to adopt this practice) will be occasionally necessary to have the work done with the proper effect. One great advantage that will result from calling in an improver, independently of professional knowledge, is, that having been

absent from the residence for some time, and being in the habit of comparing, he will be better able to judge of the alterations occasioned by the progress of vegetation; for as these are always slow and almost imperceptible, daily spectators are gradually deceived, and are thence scarcely sensible of beauties, deformities, or changes, which will forcibly affect a stranger.

3. The next duty of the *Pleasure Gardener* is to provide for the effects of decay, accident, age, and other circumstances. He must propagate rare plants, flowers, and shrubs, preserve implements, and attend to the reparation of hothouses, seats, and such other buildings as may be within his province. To enable him to accomplish all these purposes upon an extensive scale, he must have a foreman for the hothouses, one for the parterres and flower-garden, and one for the general operations of the pleasure-ground. In regard to the culture of flowers or exotics, he will derive information from comparing the operations and success of other gardeners; but he cannot readily, in regard to picturesque decoration, as nothing is more opposite to nature or the picturesque, than the common mode of managing scenery. To send him to wild nature would confound him, by discomposing long-received notions, to give place to others widely different; or if he derived only a certain degree of improvement, he would be more

dangerous than ever*; and if he were fully enlightened, he would no longer remain in the situation. The mode suggested above is plainly the most advantageous for both parties. But where a proprietor does not care much for having his ornamental scenery in good taste, it is easy to reject these hints, and go on in the beaten track.

4. The Woods.—The duty of a forester, like that of the others, consists in preserving order and beauty, furnishing timber or copse, and providing a succession of young trees for falls of timber, additional plantations, other uses, or decay or accident in any part under his charge

1. Young plantations must be properly formed, cultivated, trained, and thinned, and the inclosure fence kept in repair. Groves must be thinned as the trees advance; woods, coppices, willow beds, plantations for hop-poles, &c. must be properly attended to, according to the peculiar culture of each. Hedgerow timber, single trees, and even groups, must be pruned and guarded from cattle as highly valuable trees; for it is in these situations that timber usually gains its greatest size. In winter, all open drains must be kept clean, and all fences

* A little learning is a dangerous thing, &c.

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repaired; and in spring, all the walks, roads, avenues, and other openings, cleared from wood or rubbish, which may have been unavoidably laid on them during the fall of timber, in order that now they may be used as walks or drives of pleasure.

2. Timber and copse must be provided, not only for the use of the residence, and in some cases the tenantry of the estate; but as wood includes all the distant plantations, the management of that to be sold comes equally within the province of the forester. He must be able to ascertain the proper age for felling, the measurement, the value, whether of wood or bark, whether of particular trees, or parts of a tree, or of timber and bark in general.

3. He must form a nursery of young trees, and for this purpose must collect their seeds at the proper seasons. When a new plantation is to be formed, or an old one repaired, he can have recourse to this nursery, which ought to contain chiefly trees of such sorts as are much wanted, and these of many different sizes; so as when trees are required to plant in the fields or hedgerows they may be supplied of such a size as will be entirely out of the reach of the cattle. He must, in connection with this, attend to the preservation of implements, roads, &c. though the number of these under his care are comparatively few. A forester

above all husbandmen should be well-informed in his profession, and assiduous in his duty; for in his province trifles neglected soon amount to immense sums. A plantation, by being neglected, or improperly thinned, may turn out to be of scarcely any value but as fuel, which, had it been properly attended to, might have doubled the fee simple of the ground. Suppose a forester to neglect every year planting a hundred trees which ought to have been planted—in twenty or thirty years afterwards this would be a loss of two hundred pounds annually, besides the interest of that sum. Many things equally striking, both in the rearing and sale of timber, might be brought to shew the importance of the forester's office. These facts, together with what I have seen at every place where timber is grown, and heard from men of the greatest experience on the subject, convince me of the importance of having a general inspector of plantations and trees, such as I have mentioned in the Conclusion to PLANTING: and as the preservation of a country residence, in regard to beauty, is intimately connected with this; and as it appears to me that every other part of a rural abode requires, and would be highly improved, both in beauty and use, by such a general yearly or occasional inspector, it induces me, though with considerable reluctance, to give it as my decided opinion, "that every extensive country residence, where the proprietor is not fully adequate to judge of these

things himself, should be occasionally, say once or twice a year, inspected by a designer, whose province should be every thing relating to planting, gardening, and picturesque improvement." This I consider just as necessary to the proper preservation of a country residence, as a land-steward is to an estate; and I am fully persuaded that the advantages which would result from it, not only in stimulating sub-managers, as gardeners, foresters, &c. to their duty, but also in shewing them more clearly what that duty is, and pointing out errors committed, or new improvements which might be adopted, or are adopted in other places (and which the designer has the best opportunities of seeing), would far more than compensate the additional expense. That gentlemen neglect this, while they carefully provide themselves with land-stewards, can only be accounted for by reflecting that the extensive culture and great value of timber is of modern date, and that in those parts of an estate appropriated to a rural residence the beauties of nature are just beginning to be substituted for those of art. And as these, when once made, were easily comprehended by gardeners (for what could be easier than to trim hedges, prune avenues, form straight or circular walks, or mow slopes, &c.), consequently they required no real taste, or diversified application of principle, to preserve them, as the beauties of nature do, when thus mingled with utility.

This proposal is not made from theory alone. It was practised in Scotland by the late Mr. Mawer, a respectable designer, with great advantage to several proprietors. It would be unpardonable egotism, and to some appear like self-interest, to offer as further proof instances from my own practice. I shall only observe, generally, that on several estates I have acted in this capacity for some time past; and from only visiting them once a year, such advantages have already arisen, as are highly gratifying to me and advantageous to my friends.

BOOK II.

PART III.

DIFFERENT STYLES OF FORMING A COUNTRY RESIDENCE CHARACTERIZED,

AND COMPARED WITH THE MODE PROPOSED IN THIS WORK.

I HAVE observed in the general introduction to this volume, that two distinct styles or manners of forming a country residence have existed: the one avowedly formal, and the other affectedly graceful. I now proceed to compare these two styles with that which I propose to introduce, or rather (to avoid a term which may have the appearance of indicating too great a love of system,) with the free manner which I pro-

pose, of being confined to no style or mode, but of introducing beauties and effects suitable to the scene or situation, whatever age or country they may be borrowed from, or by whatever epithets they may be denominated.

CHAPTER I.

PART OF AN ESTATE TO BE FORMED INTO A RESIDENCE.

PLATE XXV. fig. 1. represents a piece of ground which we may suppose to contain from 400 to 500 acres, and of which upwards of 300 are to be formed into a residence. A brook may be seen to pass through it, partly among meadows, or wastes of copse and pasture, and partly along the hedge fences. Two farm-houses, some cottages, and belts of planting, also appear, which it is unnecessary to describe: suffice it to observe, that the farm-house in the centre is on the highest ground, which descends in varied and gentle slopes on every side to the margin of the brook, except toward the cluster of cottages upon its banks, where it terminates abruptly in a wooded precipice of rocks or gravel, &c.

CHAPTER II.

THE FORMAL OR ANCIENT GEOMETRICAL STYLE OF FORMING A COUNTRY RESIDENCE.

FIGURE 2. represents the method in which a residence would have been formed on such a situation a century ago by London, Wise, Switzer, &c. Their first operations were, to clear away every cottage, hedge, and tree. Then they levelled down the precipice and every irregularity. Next, they formed it into square fields and avenues, planting belts of trees between them. Two small woods were placed on each side of the house, and one large one near the garden. The water of the brook was introduced, through a conduit, to an oblong canal; from that, to two round basins in the central garden; thence to another oblong canal corresponding with the first. From that, under ground, as before, to two ponds in the large wood; and then it was carried by the side of the outer strip of plantation, until it rejoined its former channel. The plan itself shews the rest. I only observe farther, that nothing is done to the surrounding fields, except the removal of the cottages and of the belt, which

would otherwise have closed the view from the avenue. The three shortest of these avenues are in appearance continued through the fields by means of single rows of trees.

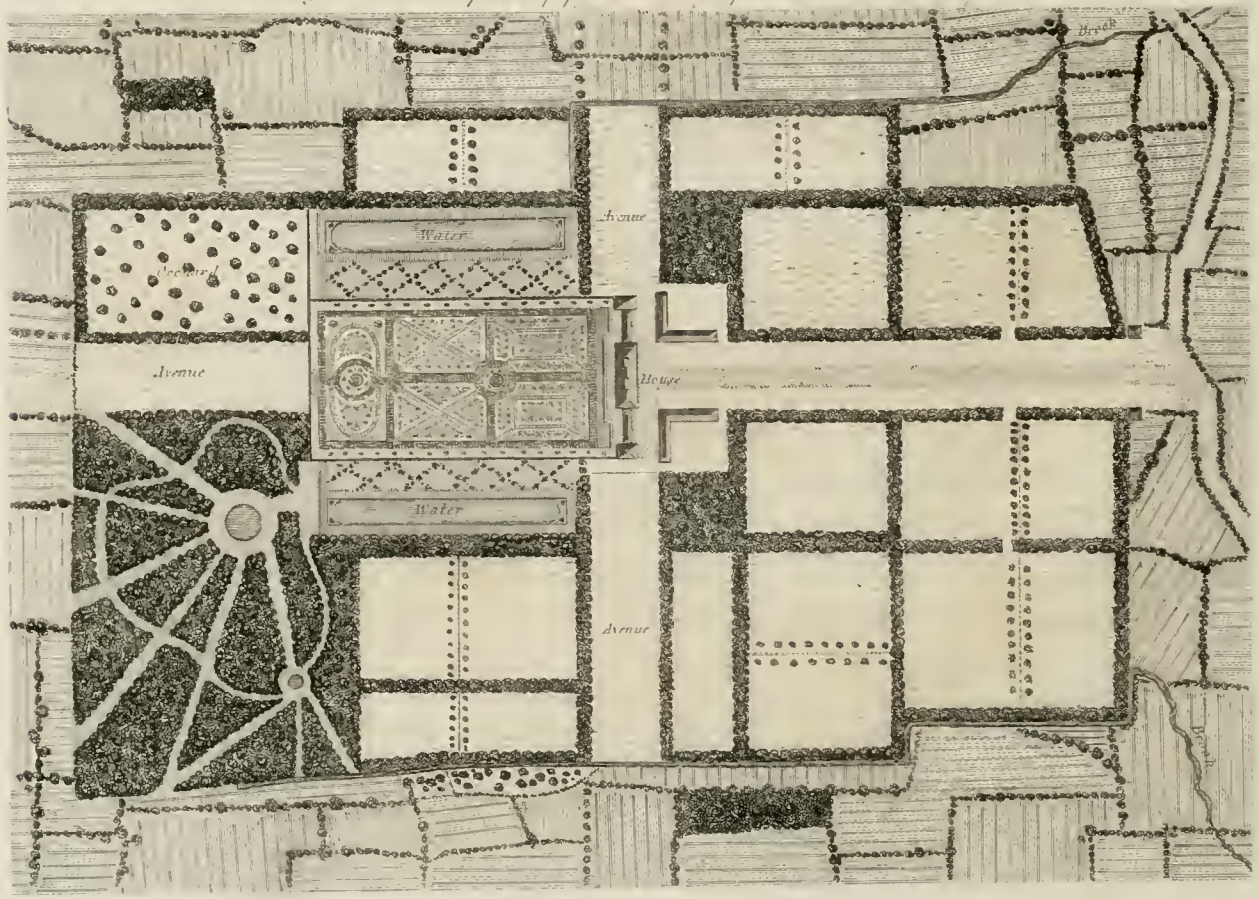
CHAPTER III.

THE AFFECTEDLY GRACEFUL, OR MODERN STYLE OF FORMING A RESIDENCE.

FIGURE 3. represents the manner in which the same piece of ground would have been laid out by Mr. Brown, or his followers. In the first place, it is cleared, levelled, and smoothed equally with the former, except one small cottage, which will be sufficiently hidden by the belt. The house is built on the highest part of the ground. All the offices are sunk under it, except the stables; and the visible part of the house, in the form of a cube, with an extensive front seen only from the approach side. The brook is elevated upon the side of the rising ground, and formed into a still river, with cascades and islands, which may be seen from the house all round. The park being surrounded with a belt, inclosing a ride or drive; within this the

Fig. 1. A portion of country part of which is to be formed into a residence

Fig. 2. A residence formed of fig. 1. in the style prevalent about a century ago.



J. Loudon del.

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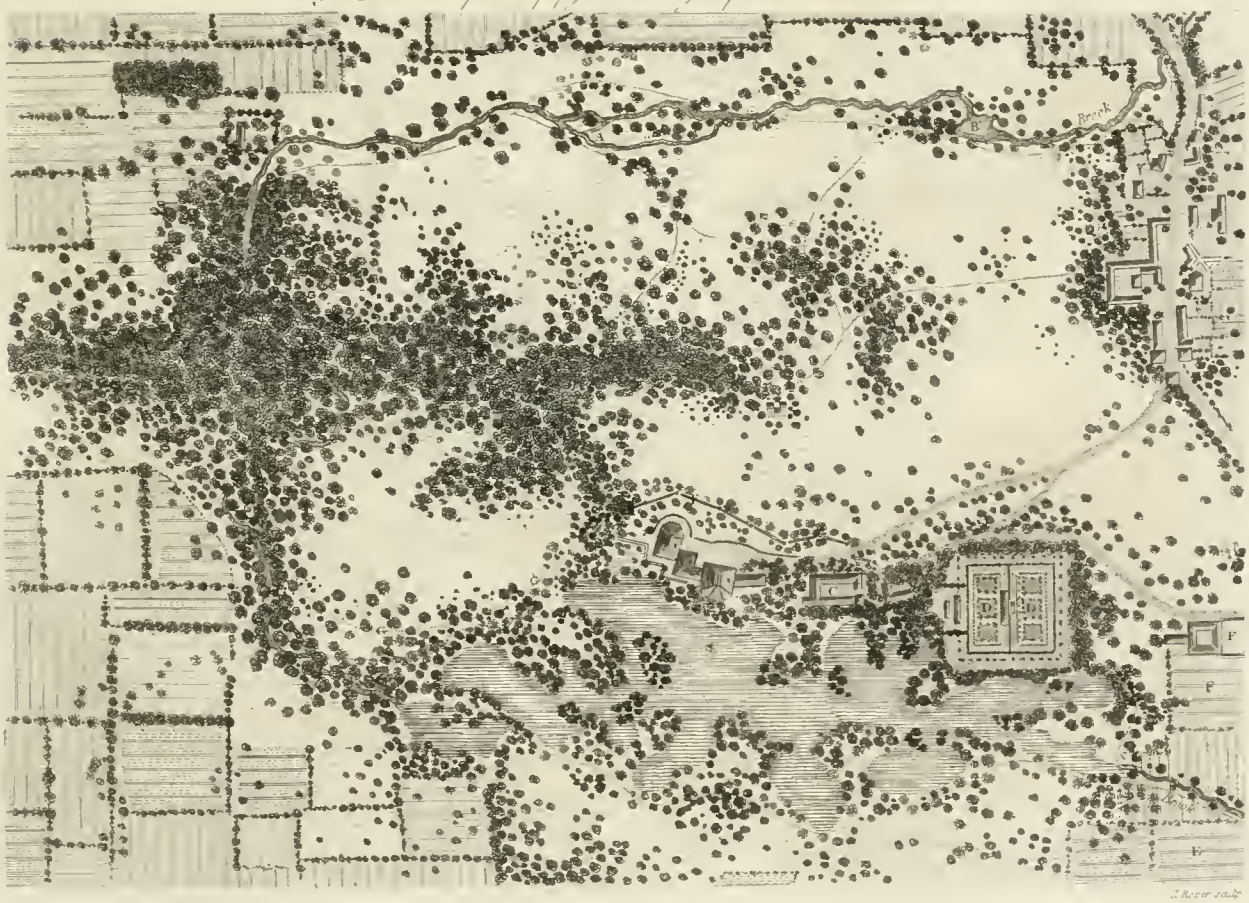
Fig 3. A residence formed of fig 1. in Mr. Brown's style — generally prevalent at the present day, 1790.

Fig. 4. A residence formed of fig 1. in the style of the author.



whole is diversified with clumps of different sizes, but for the most part of the same shape. The park is fed with deer, sheep, and cattle, and the large spaces in the drive, and all the pleasure ground, is regularly mown. Buildings are introduced at different places both in the drives and park. The approach walks, pleasure-ground, and a large kitchen garden, are formed, as shewn in the plan. From all the drives, approach walks, and pleasure ground, the objects of view are either the ornamental buildings or the mansion, vistas being made in all places from the one to the other; the belt excludes all the distant country, from the lower parts of the ground, and the clumps exclude it from the higher parts, and from the house. It remains only to be observed, that nothing is done to the surrounding country, except that in the room of the cottages removed, a formal street, under the name of an improved village, is erected at a proper distance from the mansion and the approach. Duddingston, near Edinburgh, is laid out almost exactly the same as this plan. Hundreds of other places, in both England and Scotland, come very near it; and the general features, the *belt*, the *clump*, the *tame* and *still river* *, abound in both countries, and

* It is with pleasure I observe, that though Mr. Repton strenuously defends Mr. Brown, whom he styles his great self-taught predecessor, yet he disapproves in most cases of the belt. I am sorry to add however, that Mr. Repton's pieces of water, whether in his published works, or where executed, are equally to be condemned with Mr. Brown's. The disapprobation of the belt, too, is merely

still continue to be formed in the same manner, whatever may be the natural character of the situation. Plate XXII. is a general view of a residence laid out in this style in 1804-5. Plates XV. fig. 1. XVI. fig. 1. and Plates XXIV. XXVII. and XXIX. represent smaller parts, or landscapes from real scenery, laid out in this style.

CHAPTER IV.

THE CHARACTERISTIC* OR NATURAL STYLE RECOMMENDED IN THIS WORK, AND ADOPTED BY THE AUTHOR IN HIS PRACTICE.

FIGURE IV. represents the mode in which I should wish such a situation as fig. 1. formed into a residence. The house is placed on the abrupt termination of the rising grounds—all the

verbal; for in all the places where Mr. Repton's plans have been followed, it is quite impossible to distinguish his operations from those of Mr. Brown's.—See Wooburn, Thoresby, &c. and also Appendix, No. II.

* I call it *characteristic*, because its leading principle is to create or heighten natural character. The other styles effect directly the reverse—they produce a monotony of artificial character.

offices are brought into view—all the buildings are made low, irregular, and suited to the ground. The brook is rendered more characteristic, as such, by forming little aits and islands, as at A; and pools, or stagnated places, as at B; and at other places under the shade of the grove where it is not seen. In the hollow near the house, it is spread out into a lake, varied by prominences, islands, and wood. The stable offices C, the kitchen garden D, and the farm E, are all placed near each other, and near the mansion. The wood appears in one extensive irregular mass, crowning the large eminence, and connecting it with the lower grounds in which the brook runs. In place of surrounding the whole with a belt, the margin of the park every where blends irregularly with the country; in some places a hedge only, in others a sunk fence, in others open paling, separate it from corn fields; and in several places large portions of the park are united to the country by the use of hurdle fences; by which means more or less of it can be inclosed and *let* out to tenantry, at pleasure. The wood, by this plan, does not abruptly terminate with the park, but loses itself in scattered trees, hedgerows, and occasional strips, among the corn fields of the neighbouring farms. Hence the beauty of the views in walking round the margin of the park. An irregular village is formed by scattered cottages, wood, and pasture, and from this the approach is led to the house, with a branch to the offices and garden—the farm road is not seen in the plan. The lines

representing walks are seen in different parts of the grounds.—Those for morning and evening are extensive and open; those for noon are entirely under the wood. Both contain considerable variety, whether we regard the beauty and wildness of the park, the views of the distant corn-fields and hedgerows, the village, the brook, the lake, or the different picturesque compositions formed by the house and offices; to say nothing of distant prospect, which in the modern practice is very frequently hidden by the belt, and at all events is ever prevented from harmonizing with the park by that opaque distinct boundary. F represents a fence to guard the cattle from the front of the mansion; G a rail, net, or unseen fence, to preserve a space along the margin and rivulet as pleasure ground, in which exotic shrubs and flowers are to be distributed in natural like groups and thickets. All the rest of the grounds are fed with deer, horses, cattle, sheep, &c. The kitchen garden is here made small, because many of the culinary vegetables will be cultivated in the fields; and no orchard is seen, as a sufficient number of fruit-trees are introduced in the groups and pleasure-ground scenery. Other particulars wherein it is different from the two former do not require to be mentioned. A drive may be made through the park at pleasure, and through the counrty according to circumstances. The trees and masses of wood in the park shew that it abounds with low growths and wildnesses. The general appearance of this scheme in fig. 4.

J. Louden del.

Greig sculp.

Farnley Hall the residence of Walter Fawkes Esq.r as it will appear when the alterations suggested in 1805, have been three years completed.

To Walter Fawkes Esq.r this plate is respectfully inscribed by his devoted serv.t J. Louden.

Published May 3.rd 1808 by Longman Hurst Rees & Orme Paternoster Row.

Pl. XXII.

J. Loudon, del. J. Storer, sc.

Farnley Hall, as it appeared in 1805 — Laid out by a modern Landscape Gardener in 1802, 3, & 4.

Published May 31st 1806, by Longman, Hurst, Rees & Orme, Paternoster Row.

shews the difference between it and figures 2. and 3., in regard to connection with the country.

Mountwhannie, Barnbarrow, Hopton Court, and Farnley Hall, are improving according to this principle. Plates XXIII. and XXIV. shew the difference in general effect between the two schemes, and shew also that the mode disapproved of is fully practised even at the present day; Farnley Hall, the subject of Plate XXIV. being laid out in 1804-5. Plates XV. fig. 2. XVI. fig. 2. and Plates VII. VIII. XXV. and XXVIII. shew the effect of this mode of forming a residence, in regard to small scenes or landscapes. Plates XXXI. and XXXII. are designs for improving the general view of two residences of singular characters*, and are introduced to shew that the same

* Maybo (Pl. XXXI.) is situated near Dumfries: it consists entirely of fertile hills and mountains, chiefly clothed with wood, but containing a considerable quantity of excellent pasture, in glades and fields on their sides, and good meadows in the vallies. It abounds with rills, and has some natural waterfalls. The lake shewn in this plate will be formed at the mere expense of a head, and the cascade by altering the direction of one rill, and uniting it with another already there. At the same time this alteration will be highly *useful*, by affording an opportunity of irrigating near fifty acres of pasture, which are on a declivity not seen in this view. The rocks here shewn are at present too much concealed by wood. The distant hill has only been a few years planted, and of course the trees scarcely clothe the surface. The one with pointed tops of trees is covered with a plantation of firs, which, notwithstanding their formal shapes, have, from the uncommon variety of the surface, an excellent effect. The effect of a low waterfall, and also of the ait or little island, are conspicuous near the approach in the foreground. The approach winds round the lake, and passes through the gate of the cottage on its

general principles which I have endeavoured to illustrate throughout the whole of this work, will never give the least degree of sameness to scenery; for sometimes a residence will assume one character, as that of Farnley Hall (Plate XXIII.) sometimes another of a different kind, as does Maybo (Plate XXX.). This is exactly what we find in natural scenery.

In these three plans, Plate XV. figures 2, 3, and 4. all the trees are represented as thinned out; had the case been otherwise, the clumps would have appeared much more formal; but there would not have been much difference in the general appearance of fig. 4. It is easy to conceive where the line of fence would have been applied in it—the small groups would

opposite banks; from thence, it passes under the cascade—then through a romantic dell here unseen; thence it ascends through a wood into a little field containing the plain cottage shewn in the distance—on the hill opposite to this cottage appears the ruins of Maybo Castle, which form a large and grand mass. To have put any other building in competition with it, would have been too extensive for the proprietor's views—a simple low cottage therefore is all the mansion that, with those other improvements, was proposed by me. These cottages, and this kind of scenery, are excellent for shewing the effects of smoke in landscape, and the forms of the hills and rocks give a thousand modulations to the sound of the waterfalls heard from different positions. Unfortunately for the execution of my ideas, the proprietor now proposes to sell the place. Those wishing to unite grandeur, use, beauty, and singularity, for a moderate sum, may here find an opportunity which may not again occur during centuries. The wood is chiefly young; but in a few years will redeem the price of the estate. This view gives but a very imperfect idea of the beauties which it might contain, it being done from an almost obliterated sketch taken a considerable time ago.

Pl. XXXI.

J. Loudon del. J. Storer sculp.

Design for improving the General View of Maybe, the property of Richard Howat, Esq.r

To whom this plate is respectfully inscribed by his devoted serv.t J. Loudon

Published May 31st 1806, by Longman, Hurst, Rees & Orme, Paternoster Row

soon have been transplanted from the masses, and sheltered from cattle by the lowgrowths, as furze, holly, sloes, thorns. As some may in part object to these different landscapes, from being chosen where trees can be transplanted of considerable size, I have introduced Plate XXX., which shews how Plate XXIX. may be improved by young trees alone, and chiefly Carolina and Canadian poplars*, oaks, elms, and such sorts, being introduced among them, to succeed the others when of a proper size. The house is improved at a small expense, by raising a parapet to conceal the roof, and by adding two towers, the one to the principal body of the house, to contain a larger drawing-room and bed-rooms; the other above the kitchen, as sleeping apartments for servants. The whole will not amount to £1000. Besides being varied by trees, it may be assisted in picturesque effect, at least until these grow of a proper magnitude, by training quick-growing creepers on it, as shewn in the view: these may be the *rosa arvensis* and *sempervirens*, and the *clymatis*, which will cover it as much as here shewn, in three years, and sooner if some of them are placed in pots or boxes above the roof. Ivy, however, must be planted to succeed these; which, like the oaks, elms, &c. planted among the poplars and limes, has a superior effect.

The trees near the house in Plates XXV. and XXVIII. are

* See Planting, Chap. II. Section 2.

large ones, three years removed; and there are very few, if any, situations where this plan cannot be adopted, if proper methods be taken to remove the trees. In Plate XXV. the improvements are chiefly effected by young trees; the house and offices in that Plate being improved before I was consulted.

CHAPTER V.

THE LEADING DISTINCTIONS BETWEEN THE AFFECTEDLY GRACEFUL SYSTEM OF BROWN AND REPTON, AND THE CHARACTERISTIC STYLE OF THE AUTHOR.

1. In regard to the *whole*, the *modern system* is to render a residence separate from the country. The *characteristic style* of forming, and the improvements proposed in residences already formed on bad principles, tend to harmonize it. In regard to the *parts*, modern gardening forms and places every thing distinctly and alone; this groups and connects them with each other and with the whole.

2. In regard to *wood*, the vulgar practice is to shut out the country by a belt, and to vary the space within by clumps. The style proposed tends to increase the expression and character of the situation, whatever part of the grounds that may direct to be wooded, whether in the middle or the boundaries; and in place of shutting out the country, the wood diverges gradually into hedgerows, in order as much as possible to unite and harmonize it with the residence.

3. In regard to *buildings*, the common way is to conceal every thing except the mansion. This shews every building, not as single objects, but as component parts of the scenery.

4. In regard to *water*, the old plan is to produce quantity or extent of surface, and render it as conspicuous as possible. The style proposed is to produce natural character.

5. In regard to *ground*, the modern system is to smooth and form undulating surfaces: this attends to character.

6. In regard to *parks*, modern landscape gardening makes them smooth and destitute of under-growths, ferns, and other plants. This, by introducing hollies, thorns, briars, ferns, and sometimes furze, broom, and brambles, gives them a wild forest character which is the grand object of their formation.

7. In regard to *pleasure grounds*, the common mode forms many acres of lawn, which have to be kept in preservation at a great expense, while they produce nothing. The plan here proposed admits of more or less, according to circumstances and situation; and generally forms little that is not grazed by sheep or covered by low flowers; so that extensive mowing is never requisite; and generally it permits the cattle to come within a few yards of the house *.

8. In regard to KITCHEN GARDENS, the modern system is to have them large, and kept at enormous expense; this generally approves of them small, and cultivates the greatest quantity of culinary vegetables in the farm.

9. The difference of expense has all along been noticed in the course of this work; whether it relates to mansions, buildings, planting, water, gardens, farms, or pleasure-ground. That it will be very considerable, must be evident from the general consideration of the difference between assisting what nature has already begun, and counteracting nature altogether. I refer to the several parts of Book I.

10. Several other less striking differences in each of these

* Green pasture, whether in pleasure-ground or park scenery, is always void of energy or strength of expression, unless when grazed by cattle.

heads, and differences in many other topics not here mentioned, are to be found in the body of the work. A number of these ideas of improvement, separately considered, are accidentally scattered in different books, residences, or passages of country; but few or none of them have been put in practice by professional men; and their union in the mind of one proprietor or artist, in such a way as to produce a distinct style of forming a country residence, has not hitherto taken place.

BOOK III.

PART I.

OF THE

CHOICE OF A SITUATION FOR A COUNTRY RESIDENCE.

In choosing a situation to be formed into a country residence, according either to the *ancient* or *modern* style of art, all the particulars that the purchaser need attend to are, the *soil*, *exposure*, and *climate*, as they regard vegetation and shelter. The choice in regard to any thing else is of little consequence; for whatever may be the natural character or appearance of the situation, the same style of improvement is universally adopted; and hence that sameness of appearance among residences which renders them uninteresting to all but their owners; who, in general, seldom visit them but for a few months in a year, and even that arises more from necessity than preference, because they are always found more useful than beautiful or interesting. Supposing it allowed to be advisable to introduce more of *na-*

tural character into the scenery of a residence, still it may be observed by some, that to attempt to direct men in their choice is useless; either, say they, because nothing can be done but picturing out the most perfect situation, and advising all to choose that which is simply impossible; or, because few have it in their power to make any choice at all, and consequently directions might only excite regret:—and lastly, because most men act from feeling, or accidental concurrence of circumstances, in this matter. A very slight reflection, however, will convince a thinking mind that these arguments are all equally distant from truth. Nothing can be more evident, than that the beauty, excellence, or perfection of a situation, is relative, and depends entirely upon the mind, intention, and fortune of the intended purchaser; and every attentive observer knows, that there is as great a variety of character in men as there is in natural scenery. But as we often find that in neither is the character indicated, so marked or expressive, as to render it striking; hence such men cannot be expected to know themselves, and of course are incapable of judging truly of their own dislike or approbation of situations, any more than of their opinions of individuals of their own species. When scenery is not expressive, the unexperienced in it, though they may know their own minds in other things, are yet incapable of discerning whether a situation has, or is capable of having, such an analogy as will continue to satisfy and please their taste. When the mind is not fully formed, or when a man is not con-

versant with his own character, though he may have a knowledge of the expressions of scenery; yet, from being unable to trace the analogy between it and his own mind, he is not qualified to choose a situation which he will continue to admire.

That there is an analogy between the minds of men, and the surrounding objects with which they have been chiefly conversant in their younger years, admits of no doubt; that the habitual tendency of the mind is to reflect on such scenery, is certain, both from reason and experience; though this bias is, perhaps, more or less great, in proportion as the scenery is decisively characteristic or insipid. We see it always happen, however, with those travellers or adventurers who go abroad from romantic or strikingly characteristic countries. This is particularly evinced by the natives of the Alps, the Appenines, and the Pyrenees. Even gentlemen who have gone from Scotland and Wales, and remained long in warmer climates, where they have accumulated fortunes, always return to their native countries, and there fix, not upon plains or uninteresting places, but upon hills or mountains, or near the sea. For the same reason, those who go from England, which is comparatively an uninteresting country, do not so frequently return; but when they do, they more commonly form a residence in the neighbourhood of London, or other great cities, than any where else; these being the most striking features

in their country*, unless they have gone from some comparatively romantic part of it, whither, if they can, they frequently

* Hence the poverty and circumscribed ideas of such English landscape painters as have not devoted great part of their time to the study of Cumberland, Scotland, or Wales. Hence also the style of modern gardening, which could never have been introduced by a person whose imagination was stored with images from picturesque scenery. To the same cause may be traced the want of national music in England, and the inferiority of such descriptive poets as have not passed great part of their time (as did Spenser) in other countries. And how can it be otherwise? for what are poetry or painting, but the offspring of impressions?—and impressions can never be good where there are few good objects to convey them. I have frequently found, that even such English authors as from their opportunities or profession should be remarkably conversant with scenery, are yet, from the daily habit of seeing nothing but tameness and insipidity, so forcibly struck with occasional views of the grand or romantic, that their descriptions approach to bombast. Even Mr. Whately is to blame in this respect. And what shall I say of Mr. Repton, who seems to consider himself as the centre of all good taste in scenery? I shall quote, from his "*Enquiry into the Changes of Taste in Gardening*," what he would wish his readers to mistake for the vale of Downton; but which only convinces me that he has neither an "eye to see, nor a heart to feel nature."

"Downton Vale, near Ludlow," (is) "one of the most beautiful and romantic valleys that imagination can conceive. It is impossible by description to convey an idea of its natural charms, or to do justice to that taste which has displayed those charms to the greatest advantage, 'with art clandestine and concealed design'."—So much by way of contrast, before proceeding to the description; and so much for the objects to be described, which the reader will perceive are "its natural charms," and the manner in "which taste has displayed them."—He proceeds thus: "A narrow, wild, and natural path, sometimes creeps under the beetling rock close by the margin of a mountain stream. It sometimes ascends to an awful precipice, from whence the foaming waters are heard roaring in the dark abyss below, or seen wildly dashing against its opposite banks; while, in other places, the course of the river Teme being impeded by natural ledges of rock, the vale presents a calm glossy mirror that reflects the surrounding foliage. The path in various places crosses the water by bridges of the most romantic and contrasted forms; and, branching in various directions, including some miles in length, is occasionally va-

return. The reason of this is obvious; the natives of both kingdoms, when abroad, and reflecting upon their native countries, naturally picture to themselves its most striking features, which in Scotland and Wales are hills and mountains, and in England generally large towns and cities; and as both have been accustomed, in contemplating their native scenes, to

ried and enriched by caves and cells, hovels, and covered seats, or other buildings in perfect harmony with the wild but pleasing horrors of the scene." Now I beg that the reader, who has not seen Downton, will endeavour to conceive an idea of this scene in his mind. If he abide by this description, as this author is pleased to call it, I know not what he will conceive of it; certain it is, no painter could ever make a drawing from any one part of it, which would be recognized as in the faintest degree like Downton. I will not carp at the epithets bestowed, such as "the most beautiful, &c. which can be conceived," though it is far inferior to hundreds of others; nor shall I notice equal errors in the choice of words in the description, because I am aware that in this respect I may have frequently erred myself in the course of this volume; I object only to the want of those great features which characterize Downton Vale, and distinguish it from most others in England. These are, a continuation of steep mountains on one side; the abrupt termination of irregularly level grounds on the other; and, what we have not the smallest idea of from the above sentences, a rich canopy of old wood which covers both the banks!! What could a painter have done without this mountain and these woods?

What better are Mr. Repton's sketches in his "HINTS" and "OBSERVATIONS?" what do they display, but "a kind of superficial ingenuity, well calculated to take the lead in drawing-schools and academies, which, assuming all the airs of genius, often passes for that quality among inaccurate observers; a glittering tinsel kind of talent, which rarely attains to eminence; which belongs more to the hand than to the head; and most commonly ends in a manufacture of *mannered insipidity*, and *unfeeling mechanism**." Witness Mr. R.'s foreground trees, which are neither imitative of general nor individual nature; and most of them are such as could not possibly exist at all. See his Views of Welbeck in "Hints and Sketches."

* Shee's Rhymes on Art, p. 25, first edition.

extend their imagination, and grasp the idea of them as it were across the ocean, so both are desirous when returned of being near it, or at least having a distant prospect from their dwelling, in order to give exercise to the same habits. I have generally found in almost every case, that gentlemen, when retiring from a city life in their own country, and wishing to choose a country residence, have preferred those situations which had most analogy with the scenes rendered familiar to them by habit in their younger days.

Similar sentiments indeed exist in every mind, though seldom with the same energy, and often warped by the pernicious effects of commerce, or the long habit* of living in great cities.

* The anecdote of a marine officer, who at his villa erected a building in imitation of the quarter-deck of a ship, and the greatest part of his time used to walk in it alone, is sufficiently known. Most sailors indeed, when on shore, seldom make long excursions, but generally walk backwards and forwards upon the same spot. Wherever we are placed, we become in time habituated to certain objects, the absence of which gives us pain, in proportion as those objects have been analogous to the mind, and according to the length of time that we have been habituated to them. To this source the reader may trace an endless diversity of pleasures and dislikes, which he will perceive take place in others upon the presence or absence of things to him perhaps uninteresting. It is this which gives the chief interest to the house in which we were born, the school in which we were taught to read, the dress of our youth, and thousands of other recollections of departed joys; which, as a great poet observes, are remembered with a painful pleasure. As a contrast to the general remark of sailors never making long excursions, I may add, that those who have been long abroad almost constantly delight in extensive prospects; perhaps from the coincidence of all their past lives having been spent in the prospect of more complete happiness at a future period. For illustrations of these observations, see a beautiful little poem on " The Influence of Local Attachment."

To assist such persons to discover the real tendency of their sentiments in this respect, and to enable them to choose situations analogous to their own minds, or to the objects which they have in view, is the purpose of the following remarks; which I am led to make, not merely from reflection on the subject, but also from having often observed some who, having made choice of situations highly excellent in themselves, but not calculated to promote the recurrence of those ideas which had become necessary to their happiness, have thereby, in some of the finest residences which the country affords, been completely miserable. There is a small residence in Surry, within thirty miles of London, which possesses, I believe, more advantages, both in regard to beauty and profit, than any other within that distance of the metropolis. It contains the most recluse and sequestered scenes, and at the same time commands the most extensive prospects, containing London, Windsor, the Thames, and many other striking objects. The purchaser having left London, and taken possession, after staying a few months found himself dissatisfied, and began to make alterations and improvements. These finished, he was equally unsolaced with his situation; though unable to make any particular objection to it, yet continually indicating a want of something further. A friend of mine, having occasion to spend several days with this gentleman, soon discovered the grand reason; which is simply this, that the house is upwards of a

mile from the turnpike-road. Another residence I know in Scotland, in the immediate neighbourhood of a large town. It is highly romantic, though close to the post road. The house is good; but, being hidden in a hollow among trees, is from no quarter seen till the visitor is close upon it. The proprietor purchased this place, as being by common consent a very fine one; but he having made his fortune by merchandize in the town was *(laudably)* desirous to have other people know it (in order perhaps to stimulate them to do likewise); and consequently this recluse situation, both of the house and of his new improvements, gives him continual pain, because he neither sees nor is seen; and, however astonishing it may appear to some, who do not make allowance for diversity of taste, he has begun to build another house close by the margin of the public road. I only mention these things with a view to shew, that had both proprietors been duly aware of the object they had in view when they proposed purchasing a residence, they might easily have saved themselves no inconsiderable expense and anxiety, and much discontentment; tempers of mind which when united form the greatest of all human evils.

Beside the foregoing reasons which induce me to make some remarks on the choice of a country residence, and which refer chiefly to the happiness of the individual, there are others which concern the beauty of the country in general, and the

improved application of taste to landscape. The wealthy merchant, by not fully considering the objects in view, often purchases estates replete with beauties to which he is either quite insensible, or attaches no value; and therefore he often destroys them, to give place either to mere utility, or to that kind of taste which indulges in the fanciful decorations common at Vauxhall, Ranelagh, Kew Gardens, and in most villas near London. These may be applied much easier to places of little natural beauty; and consequently less expense would be incurred, not only in purchasing such, but also in erasing wild scenery, to give place to these more polished and artificial decorations. And where utility is the chief object in view, a purchase can always be made to most advantage where natural beauty does not exist, and where the other kind has never been attended to. Fine slopes and levels, and good fences and roads, suit this object, and are easily met with in every part of England.

The consequence of a proper attention to these hints would be, that purchasers would get what they wanted at the least expense; and that those who had landed property to dispose of, would sell it at its greatest value. The following reasons shew how this might be accomplished.

1. A proprietor about to sell, by advertising the true cha-

racter of his ground, would excite the attention of all those whose object in view was such a character; consequently a more violent competition would take place than when the intended purchasers were mixed; some wishing to have it; others indifferent, and many attending only with a view to purchase in case of its appearing a bargain.

2. A gentleman wishing to make a purchase would attend only to such estates or situations as suited his particular object in view; and though he purchased these at a somewhat higher rate than usual, yet having less to expend in counteracting either nature or the operations of the former proprietor, it becomes in the end the cheapest bargain; and, as the character is just such as he wanted, it is also the most pleasant one.

I am far from supposing that ever any thing of this kind will take place upon a large scale, and in a suitableness to the different class of purchasers which are to be taken notice of; but I have been induced to offer these hints, from often observing with deep regret, that some of the finest scenery in the united kingdom falls into the hands of purchasers, to whom it not only appears of no value above the ordinary appearance of nature, but who hate, and consequently as far as in their power destroy, what they can neither enjoy nor turn to profit. I could illustrate this by referring to three of the finest estates in the west

of Scotland. Had some such plan as the above been adopted, these estates (not to mention the many hundreds of others which are occasionally falling a prey in the same manner) would have been gladly purchased by gentlemen eager to possess a naturally grand and romantic situation:—either a situation which they might have purchased and improved with comparatively little expense: or, one where much improvement might have taken place with excellent effect, and which would have been applied had it fallen into the hands of a suitable proprietor. But by the present mode the finest scenery is grasped by a contracted mercenary person, who perhaps not only offends taste by his whimsical improvements, but who by neglecting his own real interest injures that of the community. Such unfortunate occurrences are shocking to those who view the country, not merely as it is, but as it might be, and are highly adverse to the progress of taste. Those who do not understand these matters themselves, if they value their own interest and happiness, and the improved beauty of the country, should not fail to consult others, previously to purchasing landed property.

After these general remarks, which are designed to shew the propriety of attending to the object in view in purchasing land to form a residence, I proceed to discriminate, in few words,

some of those objects or intentions which are most prevalent among citizens and wealthy gentlemen.

1. Health. The lowest object that any citizen can have in view, in wishing a country-house, is to promote the health of his family. This is commonly done; and few evils in regard to taste result from misunderstanding either in the physician or the merchant himself. I shall only remark, that if besides a mere house, a small garden were always procured, or formed, an hour or two of labour in it every day, whether to ladies or gentlemen, (for there is employment in a garden suited to every sex and age, from the tying up of flowers, hoeing, pulling weeds, &c. to digging or trenching) would tend much more to their health than the pernicious custom of sea-bathing; a practice which when often used, is, independent of the dangerous influence to morals from herding together at watering places, so strikingly unnatural, so seldom performed by other land animals, and so pernicious to vegetables*, that it is astonishing it does not strike every one accustomed to reflect on the deaths which

* In this I do not allude to vegetables which grow in our atmosphere, where the temperature of the water and the vegetables are the same; in that case, it would do no harm to man; and if higher than the medium of his temperature, or if his temperature were too high, bathing would do good; but I refer to plants in hothouses being often drenched with cold water, which always brings on an incurable *anasarca*, a *tabes*, or general debility.

take place at, and shortly after returning from, bathing-places. In the self-practice of medicine, perhaps, more than in any other science, mankind are blindly led by those who are no less truly blind themselves*.

2. PROFIT is the next object that may induce some to retire to the country. They should choose a farm, either near or distant from the metropolis, according to the manner in which they mean to turn it to profit; whether alone, in which case they should generally move to some considerable distance from town; or in connection with some other art or profession, or some particular mode of disposing of produce, and in such cases they should remain as near it as possible.

* Were it not interfering with the province of the divine and the physician, I should ask, whether the fashionable custom of attending bathing-places be more injurious to the health or the morals of the middle ranks of society? If my observations be not correct, they injure no one; if they are just, (and it is for those interested to prove them not so) I hope they will not be without their effect. It cannot however be controverted, that the frequency of indiscriminate bathings, often within either the view or the hearing of different sexes, has contributed gradually to undermine the ramparts of public decorum, has given existence to a general laxity of principle approaching impurity of mind and sentiment, and has left us too much reason to fear that not only modesty, but chastity, have suffered by our continental neighbours; and that the disgraceful manners of the reign of Charles II. also imported from France, are about to be revived! The attentive observer of men and manners, and the real patriot, will see much to lament in such practices; as he well knows, that dissolute manners are always the forerunner of those horrors which attend the subversion of religion, laws, liberty, and perhaps even our enviable constitution.

3. The DISPLAY OF WEALTH is a very common object in view, whether we look at the petty villa or white box of the tradesman; the fanciful cottage, decorated villa, and gothic (in the original sense of the word) lodges of the merchant or banker; or the more extensive elevations, deer park, and large garden, of the wealthy and independent gentleman. In all cases, the *site* should be as conspicuous as circumstances will permit. On a small scale, this may be done by choosing a situation near town, and close by the highway; in more enlarged plans, by fixing on naked hills or parks, and cutting down such trees as hinder them from being well seen from the road. The house should always be made as large as possible, and in particular should have an extensive front; it should be very high, and either coloured bright red, pure white, or yellow, or painted of various colours, good examples of which may be seen in many of the fancy villas around London*. The form should be singular as well as the colour; hence every device which can be fallen upon to invent and execute fanciful cottages, gates, or lodges, is entitled to praise; and hence also a house, or even the offices of different kinds, may be made to assume the appearance of gothic churches, towers, or castles, or of Chinese pagodas, or moresque temples or refectories, &c.; they may even be painted in the style of ruins, and some of the glass of the windows broke, and some cracks made in the walls and

* See the description of Confucio's palace, in COWPER's *Letters on Taste.*

doors, to make the whole still more rural* and natural. In extensive residences, that grand or rather sublime invention of Mr. Repton's, of placing the family arms on "*the milestones*," or on "*stones with distances*," and also *appropriation by temples and porticos* may be very properly adopted; and when the plan is finished, painted and lettered boards must be fixed up in proper public places, warning vagrants to beware of walking in the grounds, to take care of spring guns, &c. and offering a very large reward to those who shall discover offenders. Many other things may be done in a corresponding style with these, which it is not necessary to mention here, as they will be understood from this specimen.

4. A very common object in view, in choosing a situation for a country residence, is TO INCREASE THE CIRCLE OF AMUSEMENTS. The chief thing requisite here is, to fix upon a good neighbourhood where there are always a great number of visiters. The grounds should be extensive, and, if possible, they should in general be laid out in the fashionable taste, and every beautiful, new, or proposed fashion should be adopted as soon as developed: this is sure to attract company and admiration.

5. Frequently, when a person of obscure birth has made an immense fortune, he is desirous of laying the foundation of

* See Bradley's Husbandry; also "The Connoisseur," by Mr. Town.

what may be called A FAMILY NAME. This laudable desire* is commonly best accomplished by the performance of great and generous actions, or by heroic worth; but it may also be done by the formation of an extensive and noble residence; especially if in a comparatively wild and uninhabited country. A proper choice may be found in Wales, the north of England, amid the mountainous scenery of Scotland, or in Ireland. Every thing should be done in the grand manner; but all the while under the modest and worthy intention of encouraging art. The mansion should be in the castle or abbey style—the establishment extensive; the new-acquired family arms should in some cases be emblazoned on proper parts of the building, both externally and within; extensive improvement, and amelioration of the surrounding peasantry, should be a chief object of the proprietor. By this and by generous deeds he will gain extensive reverence and esteem; he will pass through life with respect from the already great families; and the succeeding heirs will reap the benefit of his exertions and patience, by being recognized as of the same rank and worth. An opposite conduct will produce very bad consequences to the proprietor in his own life time, and will much disturb the felicity of his descendants.

6. The IMPROVEMENT OF THE COUNTRY; whether in regard

* See some excellent remarks on this subject in Mr. *Roscoe's Lorenzo de Medici.*

to husbandry, taste, or the comfort of the inhabitants, is a noble object, and will be more universally approved of, by both present and future generations, than any other species of worth, whether heroic, political, or literary. Mankind in general look to such persons as to a common father and protector; and the most enlightened philosophers justly consider them as among the true promoters of human happiness. Numerous and excellent situations may be found in every quarter of the country; but the mountainous parts of it, and such as are inferior in regard to culture, will produce the greatest benefit to society, and most fame to the benevolent proprietor. There he may clothe the rocky mountains with wood, the heaths and moors with corn-fields and pasture, and the morasses with lakes and meadows;—there he may erect villages, churches, farmeries, and cottages, and every thing which may diffuse around universal content;—there undisturbed by political factions, cruel enemies, or deceitful friends; he may live beloved and reverenced, by his dependants and neighbours.

7. The choice of a situation, in order to gratify a NATURAL TASTE for the country and rural life, requires little discussion. Those who have this in view should previously endeavour to distinguish the peculiar turn of their sentiments. They may then either choose a grand, romantic, cheerful, gay, solitary,

wild, or cultivated situation, as the result of their enquiry dictates.

8. Some retire to the country merely through DISGUST AT PUBLIC LIFE. These should choose a solitary situation, or at least one distant from the capital, of a character and in a country and neighbourhood analogous to their intention; where they mean to close their life "amid books and solitude," amuse themselves by the pursuit of rural science or rural sports and amusements, or engage in the improvement of their estate; and by promoting the comforts of the neighbouring peasantry ensure their gratitude, and the name of "poor man's friend." This practice will amply compensate the lost friendship or ill usage of "that sea of sin, a wicked world."

9. There are a few who retire to the country TO INDULGE IN GRIEF for past misfortunes. It is true, the reverse of this practice commonly takes place; yet there are some pure and virtuous minds that even the present age cannot vitiate. Those, when under affliction, can find no solace in flattery, corruption, or a vortex of amusements, which may dissipate the time of the idle, but never touch the soul of the truly good. There can be no true solace in the hour of keen affliction, but by reposing in the Deity, or contemplating his attributes and laws in the works of nature;—but nature, either in *man* or in material *objects*, is

not to be found in towns; he therefore flies to unfrequented places in the country, lives in the company of truth, and converses with birds and flowers. His friends ought to choose a cottage, or a comfortable apartment in a decaying castle, situated among woody scenery or copse, and intermingled with lawn, rivulets, and old gardens or orchards which have long been neglected, and through all which he may wander unmolested by care, and undisturbed by any other society than that of a faithful domestic. This domestic may by degrees introduce sensitive plants and tamed animals to him, as *mimosa noli me tangere*, asses, cows, lambs, at first; and afterwards birds, leverets, dogs, and horses. The first class of these, by amusing or becoming attached to him, will excite his attention or love in return; the second, by indicating cheerfulness, vigour, and animation, will by sympathy excite similar feelings and exertions; and thus by degrees restore him to health, and fit him for the active duties of life.

10. The last purpose that I shall take notice of is, where a person has in view TO FEEL AND ENJOY ALL THE APPEARANCES OF NATURE. He requires few directions; his habitation, whatever it be of itself, whether an obscure cottage or village garret, will be a situation, if possible, where "nature, unconfined, displays all her graces." His property is all nature; and, knowing no bounds to his estate, he may therefore change

his residence at pleasure. Content to receive from man only what are called the necessaries of life, he is sure of enjoying the most sublime mental luxuries which heaven and earth afford:—and whether he opens his eyes and beholds the rising sun dispersing the clouds which empurple the distant horizon, or shutting them contemplates that variegated circle of colours which is formed by the compression of the eyelids—whether he remarks the "green blade which twinkles in the sun," or "the huge oak which in the forest grows," his soul is alike exalted in the discovery of divinity.

> "He looks abroad into the varied field
> Of nature; and though poor, perhaps, compared
> With those whose mansions glitter in his sight,
> Calls the delightful scenery all his own.
> His are the mountains, and the vallies his,
> And the resplendent rivers. His t'enjoy
> With a propriety that none can feel,
> But who, with filial confidence inspired,
> Can lift to heaven an unpresumptuous eye,
> And smiling say, 'My father made them all'."
>
> COWPER.

I shall close this PART of the work by addressing a few cursory remarks to those interested in a country life; which, like the foregoing, are the result of observation on the actual state of civil society.

1. A person sensible of having a bad situation, without the

power of changing it, need not despair of rendering it interesting. Nature has beauties suitable to every style of country, even the most indifferent: if these be transplanted with taste, they will always please; and the most insipid situation that can be conceived may, by introducing and cherishing natural beauties, be rendered much superior to the greater number of what are in the present day called fine places, where all is art and ostentation. Even country residences which have faults that offend at first, such as where the house is much exposed, the climate moist, the prospect dreary, &c. will, after a little habit, not only become agreeable, but more interesting to the proprietor, than one comparatively mild, and more attractive to the first view*.

2. In order to become enamoured with a situation, persons should be carried to it in fine weather, and if possible when the heart is mild, unprepossessed, and susceptible of whatever

* There is an error, both in contemplating the choice of a residence, and of a partner for life, which is generally prevalent. Most men picture such objects as are mild and pleasing to the view, and free from faults or singularities; and then imagine that if they could possess such, they would be happy. But this is a mistake: mere negative goodness, whether in women, men, or situations, soon cloys and palls upon the mind, without the animating influence of faults and singularities. Domestic jarring is often the soul of domestic happiness, by exciting at other times more strong emotions of reciprocal affection. A journey made free from accidents, narrow escapes, and singular occurrences, is so uninteresting as soon to be forgotten by the traveller; and even the period of life itself, if it were possible for it to pass without these, would be a mere blank in the memory. Every thing in nature is affected by the principles of contrast.

impressions may be made on it. Much, if not the greater part, depends upon these circumstances at our first view of a place; and the impression then made is generally so strong, that it is difficult to remove it, even when afterwards convinced by reason or experience that it was wrong. This every traveller must have felt; and it accounts for the different opinions which tourists have given of the same place. It teaches the great propriety of bringing up in the country all children who are to inherit, or who may probably become able to purchase, landed property: and of introducing an heir, who has never seen his inheritance, under the most favourable circumstances possible. It shews also the great importance of educating the heirs of entailed residences upon these estates; that when they become possessors, they may discharge what propriety and duty requires with pleasure to themselves and advantage to all their dependents. This is commonly neglected at present; and too much power is left to stewards, who soon become haughty and petulant, and materially injure both landholders and tenants. Every trifle of this kind deserves attention—From the slightest causes often result great effects; and every thing which tends to reconcile or excite landed proprietors to live more upon their estates, and to encourage rural industry, and promote the introduction of good taste, is worthy the attention of either a refined or benevolent mind.

3. A proprietor ought generally to retain the same residence

or residences all his life. This will prove an interesting source of pleasure and instruction in old age. At that period of man's life, memory is often incapable of retaining the operations of a week or a day; while the actions of former years, and especially of youth, remain indelible on the mind. Hence, by the assistance of the eye—by looking upon what he accomplished many years ago, the trees that he planted, or the fields that he improved, or by frequenting the scenes of infancy, the most lively pictures are realized, and are sure to entertain, where those of the greatest painter or writer that ever lived would have no effect. I may add, that a virtuous mind, taking into view the good which he has done to society in these periods, will look back on the past with complacency, and forward to the future with hope. Unfortunately, there are few in high life who have it in their power to experience these pleasures, which are without doubt the greatest that old age can enjoy: yet still there are some who, from sympathy, as well as a general knowledge of human nature, can appreciate such pure enjoyments.

4. Man is an animal formed for society; and whatever be his love of nature, or whatever kind of her productions he most admires, unless an enthusiastic connoisseur in one class of objects only (and then he ceases to be a man of general taste) he will never find his happiness complete without domestic enjoyments. This may seem rather trifling to be mentioned here; but it

is too much neglected, and has a bad tendency on the individual, and on society at large, in several points of view. Let the reader recollect what Shenstone suffered on this account*.

Lastly, it may be observed, that unless true religion and extensive moral reflections enter into all our studies of nature, persons of delicate taste and uncorrupted minds will never enjoy true happiness, even in a country residence. There is an intellectual repose and refined mental pleasure, which arises from the *relative* contemplation of all nature—from the discovery and contemplation of the links of that endless chain by which every thing is connected, and by the perception of that wonderful EXPRESSION or MIND which pervades the whole universe. There is as great a difference perceived in nature by studying it in parts, either as a painter, sculptor, or botanist, and studying it in this way, as there is between the expression of a marble statue, and that of a graceful woman. The one mode of study has no necessary connection with the moral actions of men; the other tends to regulate and harmonize them†. The one contracts the mind; the other contributes to the fullest developement of the human faculties, which is, without doubt, TO ANSWER THE END OF OUR EXISTENCE.

* "Domestic life in rural leisure past!
Few know thy value, and few taste thy sweets."

† *See Hartley on Man, Bates's Rural Philosophy, &c.*

BOOK III.

PART II.

SOME CONSIDERATIONS WITH

A VIEW TO PROMOTE RURAL IMPROVEMENT,

AND

PARTICULARLY THE IMPROVEMENT OF RESIDENCES.

Perhaps I may be here allowed to mention a few inducements to rural improvement, in addition to some which have occasionally been suggested in the foregoing pages. Man, in whatever stage of society he may be placed, is a social and dependent being: the lower classes look to the wealthy and powerful for protection; while the wealthy, in return, derive their dignity and consequence from the lower classes. In consequence of this relation, there are certain duties that belong to each party, which are to be reciprocally performed, and are enforced by certain motives peculiar to each. The duties of both would proceed from necessity or attachment in the first

instances; but as society improves, and public bodies or communities agree to submit to certain laws and regulations, the duties of the poor, from being the result of mere necessity or attachment, become such as, if neglected, are punishable by the laws of their country, as a violation of order; while many of the duties of the wealthy, in place of being dictated by the principle of self-defence or aggrandizement, in consequence of a superiority in mental energies, flow from the more noble principles of *benevolence* to all around, *love of country*, and *national improvement*. If at any time they seem to forget the important duties of their stations, they are recalled to them, not by laws of compulsion, but by awakening their natural sense of honour and virtue; and in this case, the literary men of the age never fail to effect for the general good what the clergy do for individual happiness: the former appeal to humanity and justice, the latter to religion and piety; and the utility of both to society is perhaps seldom sufficiently known or appreciated.

1. In the first place, rural improvement demands attention from its general INFLUENCE ON SOCIETY. As it comprehends the introduction both of beauty and utility, this is effected in several ways. By the cultivation of what has been hitherto neglected, and by the superior management of the whole, an increase of produce and national riches takes place. The late years of scarcity have shewn the importance of attending to

this particular; and when we consider that the real wealth, prosperity, and population of a country depend ultimately upon the improvement and cultivation of the soil (as all political economists confess), this will appear a most important consideration. 2. By the more extensive and vigorous employment* of the lower classes, they will be enabled to subsist more comfortably; they will thence be incited more generally to the married state, and that also at an earlier age, and consequently the population will be increased in a great degree. This effect is just a consequence of the former, and is of the last importance. 3. The influence of good taste and beauty in rural scenery, upon the lower classes, may at first view appear unworthy of notice; but a little reflection will convince us of the contrary. The very lowest classes of the peasantry are influenced by it†. In naked, UNVARIED, inhospitable, and barren countries, such as immense tracks of heath, moss, or sand, they will be destitute of strong passions, incapable of lasting

* All good plans for ameliorating the condition of the lower classes will terminate ultimately in giving the peasant an opportunity of bringing his labour to a free market, and in introducing benefit societies for the aged and helpless. Destroy the poor rates, public charities, and servitudes, and introduce benefit societies, though only in a few places—they will soon become general—the poor will be more employed by the rich than they are at present, and will soon arise from penury and dejection to spirit and independence.

† For many important particulars belonging to this subject, I refer to Faulkener's "Effects of Climate and Country upon Society;" and Home's "Elements of Criticism," and "Sketches of the History of Man," also "Montesque's Essays."

attachments; and will make indifferent soldiers or servants. In the same kind of surface under cultivation, but without any display of rural beauty, they will be coarse in address, cruel to their families, and jealous of strangers; as in several parts of Ireland, France, and China. Even in England, those cottagers in countries uninteresting though well cultivated, as Devonshire and Wiltshire, are in general, rude and barbarous, compared with those in the same counties near gentlemens' seats, or beautiful scenery; and far inferior in respect both of cleanliness and elegance of mind to those in Hertford and Surrey. Neither however have much of that kind of attachment to native country, and even to situation, which the peasantry of Cumberland, Scotland, and many parts of Ireland, have. Born amid mountains and rocky scenery, such objects make strong impressions, which commence in infancy, and, increasing as they approach to manhood, became indelible. From the nature of the human mind, every thing connected with these objects, whether relations or employers, is drawn into the same vortex of association; and hence, whether such peasantry are allowed to remain in their own country, or are impelled to go abroad, their native mountains every where present themselves to the imagination, and with them their parents, relations, beloved females, neighbours, or landed gentlemen.

All these effects belong to objects of taste, and shew that it

may have influence on even the lowest of mankind. With respect to the tradesman, and all between him and the man of property, or, in common language, the independent, its influence cannot be doubted, in civilizing, improving, and refining their manners*; in rendering them docile, tractable, and in every respect better members of society. Many other arguments might be added to prove this, but certainly it is not necessary.

When we consider how much the existence, prosperity, and internal peace of a state, depends upon these qualities in the lower and middling classes, the importance of a general introduction of taste in scenery will appear. What might not be done in Ireland, in the civilization and improvement of the lower orders, by the introduction of taste among the higher and middling classes? The arts illuminated Greece in the midst of universal gloom! What has freed Britain from the slavery of an all-grasping clergy, or the feudal institution of a turbulent nobility, but the general introduction of better taste, both in sentiment and the arts? It is chiefly owing to the liberty enjoyed in this kingdom, that modern gardening was so soon adopted, and spread so generally over every part of the country. Even this alone strikingly proves the universal influence of general taste.

* I do not speak of towns and cities, where, by rendering artisans too rich, it very frequently introduces corruption and vicious habits. Nor do I speak of the fine arts, which I consider to be far inferior in their effects upon the generality of men, to rural beauty, because less calculated to sooth and harmonize. *See Bates's Reflections.*

2. Let the landed proprietor and the independent consider the effects of rural improvement upon THEIR ESTATES, THEMSELVES, AND FAMILIES. Their estates are greatly increased in value, either by being productive of mere annual rent for a given surface, by containing a greater quantity of woods or young plantations, or by being more admired as a residence, and consequently capable of producing a larger sum if brought to the market as such. It is true, this last particular does not hold in entailed estates; but it may be observed that there are few of the ornamental parts of a residence but what are valuable even to life-renters—thus lawn is excellent pasture; trees in every form or situation are highly valuable; rocks seldom occupy any space of horizontal surface, being always found more or less perpendicular; water is valuable for the purposes of irrigation, horticulture, rearing fish, or driving machinery; and few or no buildings ought to be erected but what are of real use.

The *effects of the objects of taste* upon the human mind are extensive, and are calculated greatly to enlarge the sphere of enjoyment, and to increase real happiness. The most exalted pleasure consists in the exercise of the social affections and of the imagination*. These a taste for rural scenery has a direct tendency to produce; for in admiring or contemplating na-

* PALEY, in his essays on Human Happiness, places it, 1. In the exercise of the social affections; 2. In the exercise of the faculties, either of body or mind, in the pursuit of some engaging end; 3. In the proper constitution of our habits; and lastly, the enjoyment of health.

ture, we find an order, harmony, and beauty, which captivate the soul and expand the faculties of mind, coincide with and promote the love of virtue, and check the selfish passions; while, by storing the mind with the most pleasing, varied, and sublime images, the imagination is thence enabled to select, combine, and, if not to "body forth the forms of things unseen," at least to conceive abundance of pleasing imagery, wherever we may be placed. Thus no vacuum in life ever need occur, no moments which we are at a loss how to spend, nor any spent which will not afford pleasure in future contemplation—whatever circumstances we may be placed in, whether in liberty or confinement, abroad or at home, in the gaiety of youth or the serenity of age, still we can draw upon the endless sources of the imagination for a supply of ideas suited to circumstances which may pass across our minds, or which we may wish to converse or reflect upon. Scenery or the objects of taste, used in any other way—mere feeling, without judgment or discrimination, either in reading poetry, viewing nature, or examining pictures, may serve very well as pastime while youth and vigour last; but when these fail, our pleasure or amusement in such subjects will be curtailed in proportion to our want of knowledge or judgment. The progress of human happiness is from the pleasures of sense to those of pure intellect.

With respect to the influence of rural improvement on our *families*, the difference between children, especially females,

educated in the country by private tuition, and those sent to public schools and colleges* in towns, is so great, and the effects which would result from it are so extensive, that, were this alone attended to, it would in thirty years effect a revolution in the manners of the higher classes;—a revolution highly advantageous for the state, honourable to the subjects of it, and conducive to the immediate happiness of parents, no less than to the future welfare of their children. The present system of female education and manners is every thing that it ought not to be, the latter counteracts the indications of natural character by habitual dissimulation; and the former prevents all mental energy by centring every thing in a few superficial accomplishments.

3. Let the wealthy man consider the consequent effects of a CONTRARY PRACTICE to that which has been recommended—either of living in the country without doing good—or squandering immense sums of money in town. By the former practice, the improvement of property is neglected; hence both the public and the proprietor suffer loss. Life passes away without being interesting to the possessor, while its approaching termination gives inward pleasure to the neglected peasantry, whose comforts it was his duty to promote. Old age approaches; he is a burthen to himself; death comes and rids

* This is not meant to apply to all our seminaries of education, many of which are unexceptionably disciplined.

the country of an incumbrance; the stately hearse enters the church-yard,—he is deposited, and for ever forgotten :— there is a secret rejoicing in the village, from the hopeful qualities of the young heir.

An occasional or annual visit and stay in town, may with some have a good effect, by way of contrast to the country*, and is perhaps essential to the promotion of that commerce which is so advantageous to this kingdom. But let me not be thought meddling with matters foreign to this work, when I mention that the major part of a yearly income squandered there, on modern entertainments, is pernicious both to those who indulge in them, and to the community. With respect to those who indulge in them, it must have one of these two effects upon their minds—either these things prove cumbersome and disagreeable—or produce happiness. If the latter, then it must follow, that when in the country they receive pleasure from it only as variety of company makes it approach to the nature of a city life. But the variety of the country can never equal the diversity of city amusements: on the contrary, it has a continual tendency to produce an oppo-

* "It is the privilege of the man who has opened to his mind, by observation and study, *all* the springs of pleasant association, to delight by turns in the rudeness of solitary woods, in the cheerfulness of spreading plains, in the decorations of refined art, in the magnificence of luxurious wealth, in the activity of crowded ports, the industry of cities, the pomp of spectacles, the pageantry of festivals."

Edinburgh Review, No. XIV. page 315.

site effect, and to awaken that which the other entirely prevented—reflection: hence it is plain, and no votary for these things can deny it, that *such as are remarkable for indulging in city entertainments one half the year, are miserable the other half**.

The effects of rural scenery are every where, upon all its admirers, and at all times, the same; they bring every noble principle of the mind into action, and allay the vicious or selfish passions and inclinations, by promoting good nature, and every social virtue: thus the pleasures of the country elevate man to his proper dignity, while by continued beneficence to mankind he enjoys and diffuses universal happiness.

The effect of indulging in city amusements tends to the destruction of property, either by requiring the whole or more than the annual income, or, even if less than that be applied, it tends

* In youth, from natural gaiety and levity, a city life may amuse; but what must be the feelings of an aged votary to such things? Supposing that from fortune and tolerable health he is still able to witness them, yet what entertainment can he have from pleasures in which he is unable to partake, and enjoyments which serve only to remind him of his age and condition.—But what must be the state of those whom these things have left in poverty, disease, and involuntary retirement? The old age and grey hairs of such are never venerable, but always despised, even by those equally devoted, and speedily approaching to the same end. View either the aged and healthy or the aged and infirm votaries to these pursuits in a relative capacity as a parent, husband, friend; view his children, his wife, their society, manners, and practices!!

to ruin, by never making any return of interest, as does property expended in the country. By leading to an increased establishment and expenditure, it often ultimately, either in the present or succeeding generation, ends in disgrace, penury, and total extinction of name. The effects of this mode of life upon mankind and the state are dangerous, by increasing the wealth and wickedness of cities, promoting effeminacy, extravagance, and luxury, in the sons of the wealthy; which, if brought up in the country, or in comparative simplicity, might have proved more serviceable to it, as proprietors, representatives, or soldiers*. Add to this the number of male servants kept, which of all other classes of servants are the most corrupted, and which greatly contaminate the simplicity and comparative innocence of country peasantry. From these pernicious wretches, otherwise employed, the country might derive considerable advantage, either in agriculture or national defence.

4. If wealth, power, and distinctions, be bestowed upon some individuals for the GENERAL GOOD, how shall they an-

* "How, in the name of soldiership and sense,
Should England prosper, when such things, as smooth
And tender as a girl, all essenced o'er
With odours, and as profligate as sweet,
Who sell their laurels for a myrtle wreath,
And love when they should fight?" &c.

swer for using them in such a way as tends to the general wreck of nations, the corruption of society, or the distresses of the poor?——How shall those excuse themselves, who in one night's entertainment, or gambling, have squandered as many thousands as would have rendered hundreds of their fellow-creatures comfortable for life?—perhaps too the widows or orphans of those very men whose united exertions constitute their wealth and security are in want and misery! If spent in the country, in judicious improvements, such sums would have produced an increasing ratio of advantages, which would have continually accumulated, from the present time to the termination of our existence as a nation. Spent in this way, it is a momentary flash, which dazzles only to increase the effect of the succeeding obscurity.

5. There is a laudable vanity inherent in the human mind, which prompts us to many actions from the LOVE OF PRAISE, admiration, or gratitude.—These rewards all persons may easily attain, from the most retired lady or gentleman, who can only act as a village physician, to the wealthy peer or prince, who ameliorates the condition of a whole district. The pleasure and satisfaction which results from doing good to the poor of the country, even in curing diseases, is so great, that I would advise those who prefer a country life, and have not an opportunity of engaging in extensive improvements, to pay

some attention to the study of medicine. Every benefit, of whatever kind, properly bestowed upon the deserving of the lower classes, is sure of producing unfeigned gratitude and attachment from individuals, and praise and esteem from the country-folks in general*.

Every good improver is not only rendered conspicuous among his neighbours, but is admired by society at large, and valued by all wise statesmen, as of real benefit to society. The authors of great and extensive improvements not only obtain the approbation and praise of the present age, but are handed down to futurity with a lustre which never can be sullied by changes of government or society; and it deserves to be remarked, that both the praise and utility of military or political worth is confined either to the period of its actual existence, or afterwards chiefly to one nation; while that of him who promotes the arts of peace and rural improvements spreads into all countries, and passes with increasing power through successive ages †.

* No pleasure is equal to that of true and unfeigned gratitude; it is so great as even to be desired by Divinity; for what is divine worship but the expressions of gratitude?

† If I may judge from the general taste for drawing among the higher classes, perhaps the duties of a country life may yet have sufficient charms. If to the study of drawing, that of botany, and in particular of trees, were added, it could scarcely fail of rendering verdant scenery and horticulture peculiarly interesting.

6. THE GLORY OF NATIONAL CHARACTER is a motive which will have considerable influence with every patriotic mind, whether that glory respects the heroic or the polite arts. One great branch of what I have been endeavouring to recommend for the encouragement and protection of the wealthy originated in, and is almost peculiar to, this country: I mean THE PICTURESQUE IMPROVEMENT OF RURAL SCENERY. Here then is a source of national fame which every patriot should be eager to advance; and which of itself, if carried to that pitch of perfection of which it is capable, will rank Great Britain with Greece and Rome in an infinitely more noble and original manner, than ever can be done by the mere imitation of arts in which the nations of those countries excelled. Here is an ART OF OUR OWN INVENTION, and one the subjects of which ever have been, and ever will be, the admiration of all mankind! Let us cultivate this art with vigour, let us render our country not only conspicuous for giving birth to it, but for bringing it to perfection!

Surely if any motive can influence the patriotic, it must be this; especially as, unlike poetry or painting, picturesque improvement is so nearly connected with the interest and riches of the individual; not to say that it far exceeds these sister arts in conferring happiness on all who are engaged in it. I trust there are still many ready to patronize the

arts in this kingdom. As a British subject, though less able to accomplish, yet no less eager in the desire of her glory, let me entreat all such to evince their patriotism by reforming the style of the pleasing and useful art of forming country residences. If what I propose as additional improvements are not so, then let them be rejected, and their author neglected; but if they are considered as otherwise, let the great and the wealthy encourage their introduction by their protection and influence; and the whole country will soon see their excellence, and be induced to *adopt them*, not less from the common principle of imitation or fashion, than from conviction of their intrinsic worth.

Though I am aware that the habit of studying one particular subject may give it a more than just importance in the general scale of moral agency, yet I think I have expressed myself with abundant moderation. I am perfectly willing to leave every thing to the cool reflection of the reader. I only offer these imperfect sketches to excite more forcibly his attention to what passes in his own mind.

Lastly, To shew in one point of view what may be the influence of all those motives on an individual, let us suppose the representative of an ancient and noble family arriving in his native country after a long absence, engaged in its

defence,—or from resigning the cares and toils of a political life in the capital, retiring to his paternal inheritance; let us suppose that, impelled by a love of country, a sense of duty, general benevolence, the prosperity of his family, and a desire of transmitting the name of his ancestors unsullied to posterity, he proceeds to improve his estate. Those hireling managers, and injurious usurpers of authority, who corrupt the poor, and do justice only to favourites, fly before his presence. His tenants and peasantry, before overburthened and sunk in misery, sloth, and ignorance, sufficient to incur the dislike of those who look only at effects without considering causes, now rise into their proper situation, fulfil their duties, and gain the approbation of their landlord. Improved cultivation is introduced, and by this example diffuses itself over the most distant parts of the estate, producing the smiles of plenty and content, in the room of want and wretchedness. On his own residence, see barren mountains become clothed with wood; and on their bleak sides, which formerly produced only heath or moss, now cattle and sheep crop the sheltered glades of pasture; or the furrows of golden ridges appear in wavy parallels across the declivities. In a mountain recess thus surrounded, see the ancient castle arise on an abrupt eminence, which shoots forward from the larger and wooded hills. Near it flows a rapid stream, which has its source amid the distant mountains. From them it flows in a romantic glen, beneath canopies of wood and impending rocks,

until, washing the adamantine base of the castle, it bursts into liberty, and forms an ample lake, encircled by the park or forest, and beyond that on one side a fertile plain: all which, from the lake, forms a noble foreground to the distant woods and mountains. On one of the islands in this lake is placed the parish church and burying-ground; conspicuous at a distance, they seem, by being debarred from common access, more forcibly to excite the piety, reverence, and frequent attendance, of the simple country folks. In the still clear morning of "the hallowed day," the rural nymphs and swains, in gay simplicity of dress, meeting the eye in variegated clusters, glide over the resplendent waters in little boats and gallies, directing their progress from different shores to the heaven-pointing spire in the island of pines and cypress. Thence, when the hymn of praise, borne on breezes over the waters, and echoed from the cliffs of the neighbouring islands, has ascended into air, and mingled with the songs of birds and angels, they retire to simple fare in cleanly cottages, sheltered by woods, and decorated with gardens and woodbines. Among those cottages, which are judiciously scattered at different parts of the grounds, that their possessors may cultivate and guard plantations, preserve fences, or herd flocks, or that the smoke from the chimney of the deserving widow may enliven the side of a woody hill or solitary glen, the worthy proprietor takes delight to walk, to view the progress of his trees, and hear the little histories and ac-

counts of the progress made in their several occupations. They all view him with an eye of reverence and esteem as their kind father and protector.

As he advances in life, he carries with him his son, who is to succeed to a populous and enriched estate. He bestows his best advice with all the affection of an aged father, and all the wisdom of a man who has studied human life in every stage, visited different countries, and had more than a common share of knowledge and experience. He recounts the condition in which he found the estate that he is about to leave, mentions the general plan of improvements that he adopted, and the ample success which followed it. He advises him to tread in the same footsteps, if, like him, he wishes to approach to old age with respect and esteem, and look forward to futurity with hope and confidence. He recommends to him a country life, and the constant study of the comfort of all his dependants, as the true way of being happy himself. He then commits to him the particular care of some veterans who had been his faithful companions in battle, whose old age he had undertaken to provide for, and who were likely to survive him. Soon after this he quietly expires* on a seat in the Saxon

* Some perhaps may think this rather an unpleasant circumstance to introduce here. I have heard of a gentleman who was content to lose the view of a distant prospect from his library, (after a drawing had been made out, shewing what would

alcove at the end of the western terrace, where in an evening of September he had sat down with his family to admire the splendour of the sky, the gloom of the distant mountains, the reflection of the evening sun, and the lengthened shadow of the islands upon the still expanse of the lake. A few days afterwards, about the same hour in the evening, his remains were conveyed over these waters, and interred in the family vault of the burying-ground, in the presence and amid the praises and tears of every individual upon his estate; for all were present, men, women, and children, even infants upon their mothers' breasts wept aloud from the general sympathy:—all were deeply affected, that all might ever remember their father and friend—he that freed them from villany and oppression—and rendered their lives comfortable and happy*.

be the excellent effects of removing a high wall), merely because a celebrated landscape gardener suggested, by a *sketch* upon this drawing, that it was possible for a hearse to be seen on a public road which happened to be in the middle distance of the scene. Such weak ideas only excite contempt. Such a proprietor as I am describing above, has answered the end of his mental existence *here*, by cultivating his intellectual powers, and doing good to mankind. What should he fear in yielding to general laws, which as they are natural and inevitable, so they must be necessary for accomplishing the purposes of our creation—THE PROGRESS OF MIND. Even in the soil, what remains of man performs a requisite part in the general agency, and, moved by the grand system of action and reaction, contributes to the beautiful economy and endless appearances of nature.

* As a proof that the lower classes really do feel in this way, when they are convinced of the good intentions of their benefactors, I might refer to some estates

Perhaps this is a picture of rural felicity, rather *as it might be*, than *as it is;* but there can be no conclusive arguments against presenting such pictures; on the contrary, they have an important application—they shew what man may attain to, perhaps with greater ease than he can accomplish any important purpose of common life; for such a life may be spent, similar effects produced, and similar happiness enjoyed, in every country, and by every one who is enabled to purchase a small estate, or a very few acres. Possession being taken, he has only to give his mind to it—if he has turned his thoughts to the subject before, he will take care to increase its beauties by attending to character, use, and economy: and will most probably have purchased in the most romantic parts of the country. A sum of money necessary for purchasing, in a smaller or larger degree, may be attained by every industrious citizen—expended in this way, the pursuit of it is worthy of commercial engagements even in the Indies—children, strongly impressed with this end

with which I am acquainted, in England, Wales, and Scotland; but I rather mention a different instance, which will shew the same thing perhaps more strikingly. In the low country of Scotland, the reaping is chiefly performed by men and women from the Highlands. All these, from different roads and parts of the country, necessarily meet on one road before they embark at North Queensferry to cross the river Forth to Mid Lothian. A gentleman in Edinburgh, remarkable for his benevolence, annually presents every individual from the Highlands with a loaf and tankard of ale just before they embark. For this they are so grateful, that the name, abode, and good deeds of that gentleman are spread through every part of the west Highlands of Scotland. I myself have heard them mention the circumstance with tears of thankfulness in their eyes; evidently not for the value of the donation, but the benevolence and consideration displayed by the donor.

of commerce, and view of a country dwelling, would imbibe ideas which, being so congenial to nature, would remain with them through life—would tend to make them sober, industrious, and frugal, whether abroad or at home; and after spending their youth in the toils and fatigues of commerce—after being thus versed in human life, they would be duly prepared for a life of retirement and domestic happiness in the country.

CONCLUSION OF THE WHOLE.

In every part of this work I have had two objects in view; in the first place, to lay down rational principles of action; in the second place, to apply these principles to the practical purposes of forming and improving residences. If I have succeeded so as to make myself understood, the reader will perceive that this art, which has no other foundation among its professors than whim, caprice, or fashion (and in which one of them (Mr. Repton), who has attempted to discover fixed principles, has displayed only confusion and incongruity in the attempt), is founded in *beauty*, *use*, and *adaption* to the proprietor; which, applied to a residence as a whole, may be comprehended in one epithet, UNITY OF CHARACTER*. If, in treating of any part of this whole, it appear that I have failed in the application of general principles, the blame must be attributed to the author, and not to these principles. I flatter myself, however, from

* Thus the principles of taste, and of all the polite arts, are ultimately resolved into those of common sense; for what is character or expression, (the end of all these arts,) but just objects appearing to be what they really are.

their simplicity, that few errors of this kind have been committed. But still, as in residences formed agreeably to these laws, the effects to be produced do not depend upon minutiæ—the course of a walk, the slope of a lawn, or the situation of any single object,—but in the general propriety and suitableness of parts, the principal masses and grouping of wood, buildings, &c.: so the utility of the principles detailed in this work does not depend upon the trifling exceptions which might be made to their universal application; or the inadvertencies which an author may unavoidably commit in detailing their effects. All nature has irregularities, and even peculiarities; and as the painter, in rejecting the last, still adheres to her essential laws and general appearances, so if the reader conceives that I am right upon the whole, let him proceed in the same manner in forming his judgment of the foregoing pages.

J. Loudon del.t J. Greig, sculp.

View of Barnbarrow from the East, as it appeared in 1805.

Published May 21 1806 by Longman, Hurst Rees & Orme, Paternoster Row

J. London del.

J. Greig sculp.

View of Barnborrow from the East, as it will appear when the alterations at present executing have been three years completed.

Published May 31 1806 by Longman Hurst Rees & Orme Paternoster Row

Pl. XIV

Loudon del. Stoter sc.

Design for the improvement of Hopton Court, the Seat of J. Botfield, Esq.

To whom this Plate is respectfully inscribed by his Devoted Servant,

J. Loudon.

Published May 31 1806, by Longman, Hurst Rees & Orme, Paternoster Row

J. London del.

J. Storer Sculp.

Hopton Court as it appeard in 1805.

Published May 31st 1806 by Longman Hurst Rees & Orme Paternoster Row

APPENDIX.

STRICTURES ON MR. REPTON'S MODE OF USING SLIDES AND SKETCHES, AND ON HIS MANNER OF OPERATING WITH THE PRINCIPAL MATERIALS OF LANDSCAPE.

INTRODUCTION.

In the foregoing Work, I have occasionally offered some remarks both on Mr. Repton's writings and his alterations upon Residences. In this Appendix I do not propose to enter into a minute examination of the latter; but merely to point out what appears to me to be the grand errors in that author's practice and directions. In making these observations I have advanced nothing in opposition to candour and truth. At the same time, as Mr. Repton in his writings displays the highest opinion of his own merits, and an unfair contempt for his cotemporary professors of modern landscape gardening; as he arrogates unmerited distinction as an artist, and claims the important right of "guiding the taste and improving the scenery of his country" *; and as I consider this taste in many things as FALSE JUDGMENT, I consequently have been more particular in my criticisms, and more decided in my conclusions re-

* "And while you studied to raise the glory, and secure the best interests, of the country; I was content to guide its taste and improve its scenery."

"*Odd Whims and Miscellanies,*" *Dedication to Mr. Windham, page* 9.

specting the practices of such a professor, than I should otherwise have been. Unfortunately for truth and good taste, Mr. Repton's writings are so expensive as to come into the hands of few; otherwise this unpleasant task would probably not have been requisite in this work. Had Mr. Repton submitted his writings to the public with that deference which every one equally confused in his notions of theory, and ignorant of the different branches of husbandry, ought to have done, I should never have opposed either his opinions or practices in any other way than by stating to the world what I conceived to be good taste in my art, leaving every one to draw the inference, or make the application, according to his own ideas. But it is otherwise; and Mr. Repton's manner of writing, and his authority with one class of the public, more than even the errors which exist in almost every page of his folios, have drawn from me these strictures. I do not hesitate to say, that Mr. Repton has a considerable share of what may be called *tinsel ability* in his art, and, compared with his cotemporary followers of Mr. Brown, he is perhaps deservedly at the head of his profession. At the same time I am of opinion, that the want of practical knowledge, and the study of nature, will ever prevent him from blending *beauty with utility and economy* in such a way as to make any considerable advances in the art. This will appear evident to every man of good taste, from that sameness and tameness of manner which certainly must be allowed to prevail in his red-books, published works, drawings, and especially the residences which have been improved under his directions.

Avoiding an analysis of this Gentleman's writings, as unsuitable to my design, I seize only on what appear to me the errors most inimical to good taste, and the true interest of proprietors. These divide themselves into—

1. Mr. Repton's mode of using slides and sketches; and,
2. His mode of operating with the principal materials of landscape.

A Sketch to shew the mode of using Slides as practised by Mr Repton by comparing the Engraving on the Slide with that under it the facility of deception by execution is evident.

APPENDIX. No. I.

An Inquiry into the Merits of Mr. Repton's *Manner of using Slides with Sketches, as displayed in his published Works* and private Red-books, or MSS.*—(See Plate XXXII.)

I do not question Mr. Repton's right to the merit of having first applied slides, or folding slips of paper, to sketches for improving landscape scenery; though I deny what he affirms in several parts of his works, that he is the inventor of them. Slides upon a similar plan have long been in use for various purposes, and were employed by the late Mr. Walker, of Edinburgh, in teaching astronomy upwards of thirty years ago. My business, however, is to inquire into their merits, which will be easily discovered when their intended use is explained. The only avowed purpose for which these can be used is to save the expense or trouble of making two landscapes where it is thought one and a half, or less, may suffice. Thus, where one landscape is made to shew the present state of the grounds or scenery, as Plate XXIX.; and another to shew the effect of the intended improvements, as Plate XXX.; the slide, or slip of paper, as in Plate XXXII., supersedes the use of the first; by containing on it all those parts of the ground whereon the alterations are made. Now the question is, whether this is equally candid, and gives the same degree of

* These works are: "Hints and Sketches on Landscape Gardening," published 1794; and, "Observations on the Theory and Practice of Landscape Gardening," &c. published 1805-6.

advantage to both landscapes, as the other method, viz. XXIX. and XXX.? I am decidedly of opinion that it is not, and for the following reasons:

1. Supposing the objects drawn upon the upper slip of paper to be exactly the same as those on the under one—equally well executed, and equally agreeable subjects: the upper one would never please so much as the one under it, because *the line which marks the boundary of the slip disturbs the harmony of the one composition, while by contrast the other is improved.*

2. The active principle of curiosity inherent in the human mind will ever prevent full satisfaction from flowing from that whereof the slip forms a part; *for while we know that the slip is capable of being lifted up, the mind will be in anxiety till that be effected.* This would be strikingly proved, if the best subject were placed upon the slip, and the landscape in its present state placed under it. Reason might convince a scientific person that the upper one was preferable; but those who judge chiefly from feeling, and from what strikes the eye, would, unless there was a very manifest difference of character between the two, be best pleased with the one under.

3. By having the two states of the landscape so connected in representations, it becomes impossible to give them a fair comparison. Every time that we compare any object in the upper one, or on part of the slip, with the same object improved in the under one, we discompose the slip, which, while it increases our dislike of the upper scene, adds to our prejudice for the secure and permanent effect of the one below. This of itself is so powerful a reason against slips, that no one devoid of prejudice can ever decide in their favour.

These are reasons to shew the inutility of this contrivance, which are valid, though perfect justice were done to both drawings. I shall next shew,

that the artist, by the slightest difference in execution, may render the one disagreeable, and the other highly beautiful, though the subject of both were equally good. This will form another striking argument against the application of slips; especially when I remark, that this is universally the practice of Mr. Repton. And if this has been done by their supposed inventor and recommender, what may we not expect from imitators, should any such appear?

1. The mere execution of either the draughtsman or engraver may render the one decidedly superior to the other. Now, from the difficulty of comparison mentioned above (3), this is not easily discovered, especially by those unacquainted with the principles of art, to whom such slides and sketches have been addressed, and by whom alone they have been approved of. In proof of this, see Plate XXXII. which is introduced chiefly to shew to those readers who have not seen Mr. Repton's work, what slides are.

2. The distribution of light may effect the same purpose still more strongly; and in buildings, those which in the reality would be disagreeable, may in the picture appear remarkably beautiful.

3. Colour may effect the same thing in a still more powerful manner than either light or execution; as Mr. Repton's works strikingly evince. In sketches for the improvement of grounds, colour should seldom be made use of, except for particular objects; forms are what deserve attention; and in rural improvement it is chiefly in the disposition or modification of them that real and permanent beauty can be produced. In sketches, colour on trees and ground may effect any emotion in the superficial observer; they may render him in love with the most disagreeable forms and grouping, and disgusted with the best.

It would have been easy to have illustrated all these arguments against

slides; but the whole is evidently a mere piece of QUACKERY, as must, from what has been said, appear to every one. He that alters grounds or buildings from such deceptive schemes, proceeds on a basiss too precarious for any but those who care not about spending money to no purpose, or who have minds incapable of discerning what is really beautiful.

From these brief observations two things result:

1. That SLIDES, though used with the utmost possible accuracy and fairness, are still liable to deceive; and, in point of doing justice to the present and improved state of the subjects, are much inferior to separate landscapes.

2. That the artist, if so inclined, has by this mode a much better opportunity of deceiving in the execution than by the other; and to these I might add, for the consideration of Mr. Repton and his admirers, that in every slide, in his two large works on Landscape Gardening, this unfair practice is adopted; for the truth of which I need only appeal to those who are in possession of his works. In all Mr. Repton's Red-books that I have seen, this practice is carried still further; but as these are private property, I avoid referring to particular instances.

APPENDIX. No. II.

Strictures on Mr. REPTON*'s published Works* on Landscape Gardening; and chiefly on his Mode of operating with* WATER and WOOD, *the two principal Materials of Landscape.*

THE art of forming Country Residences may be divided into two parts; that which relates chiefly to BEAUTY, or VISIBLE EFFECT; and that which relates chiefly to UTILITY and CONVENIENCE. Laying aside all metaphysical differences about abstract principles, the practical directions or operations which relate chiefly to beauty, or visible effect, may be included under GROUND, ROCKS, BUILDINGS, WATER, and WOOD. The first two deserve little consideration here, because whatever may be an author's principles or opinions concerning them, it is certain that no wise man will ever attempt any extensive operations upon either. The effect of BUILDINGS is certainly of considerable importance; but any remarks which occur in Mr. Repton's writings respecting them are too trifling to deserve attention. The temples, covered seats, bridges, and such decorative edifices as occur in the plates which accompany these works, are similar to those commonly to be met

* To the two works mentioned in the last article, I may here add, "An Inquiry into the Changes of Taste in Landscape Gardening; and, "A Letter to Uvedale Price, Esq." published together in 1806.

with in improved places, and are now justly rejected by men of taste, as gaudy, affected, and useless. I refer to plates III. VI. VII. XIV., &c. of "Hints and Sketches," and plates V. IX. XIII. XVI. XXV. and XXVII. of "Observations."

With respect to GROUND, the author observes, "It is always with reluctance that I advise much alteration in the surface of ground; because, however great the labour, or expensive the process, it is a part of the art from which the professor can derive but little credit; since his greatest praise must be, that the ground looks, when finished, as if art had never interfered." One would imagine that nothing could be a greater credit to the professor than *to have his works of art mistaken for those of nature.* This is, however, not the author's opinion: he has recommended occasionally the removal of hills, or their creation; sometimes a road must ostentatiously be carried round a hill, to display property; at another time a tunnel must be cut through it, to display the art of the professor: I refer to Mulgrave Castle, Michelgrove, &c.

But WATER and WOOD are the grand materials of landscape gardening. All improvement of grounds may be said to depend on their management; and therefore it is on the author's remarks upon them, that I propose to offer some strictures, in addition to those made in the foregoing parts of this work which treat on these subjects.

The subject of WATER is treated at the greatest length in "Observations." The contents of Chap. III. are, *Water—it may be too naked or too much clothed—example from* WEST WYCOMBE. *Digression concerning the approach—motion of water—example at* ADLESTROP. *Art must deceive to imitate nature—cascade at* THORESBY. *The rivulet—water at* WENTWORTH *described—A river easier to imitate than a lake—A bubbling spring may be imitated—A ferry-boat at* HOLKHAM—*A rocky channel at* HAREWOOD.

As Mr. Price has written a long chapter in the second volume of the "Essays on the Picturesque," on the subject of forming pieces of water, upon principles directly opposite to those of Mr. Brown or Mr. Repton, it may be expected that the latter will here offer something in defence of his own practice, and that of his predecessor. He shrinks, however, from the full extent of the controversy, apparently sensible that he could not lay down any fixed principles for this part of his practice. He offers only a very few hints, of which the reader shall be enabled to judge by quotations.

"The observations in the preceding chapter, concerning the reflection of sky on the surface of water*, will account for that brilliant and cheerful effect produced by a small pool, frequently placed near the house, although in direct violation of nature; for since the ground ought to slope, and generally does slope, from a house, the water very near it must be on the side of a hill, and of course artificial. Although I have never proposed a piece of water to be made in such a situation, I have frequently advised that small pools so unnaturally placed should be retained, in compliance with that general satisfaction which the eye derives from the glitter of water, however absurd its situation. It requires a degree of refinement in taste bordering on fastidiousness, to remove what is cheerful and pleasing to the eye, merely because it cannot be accounted for by the common laws of nature; I was not sorry, however, to discover some plea for my compliance, by considering, that although water on a hill is generally deemed unnatural, yet all rivers derive their sources from hills, and the highest mountains are known to have lakes or pools of water near their summits."—In this

* "In artificial rivers, the quiet surface doubles every object on its shores; and for this reason, I have frequently found that the surface could be increased in appearance by sloping its banks; not only that which actually concealed part of the water, but also the opposite bank; because it increased the quantity of sky reflected on the surface." This is illustrated by a drawing!! Besides the bad taste displayed in this passage, it shews that the author's object in forming pieces of water is just the same as Mr. Brown's; that is, to display quantity, not character.

manner, no circumstance, however adverse to nature or propriety, can ever occur, which may not be *argued into good taste ;* and no deformity will ever exist, for which we may not discover "*some plea* by considering" different parts of nature. This is embracing an error which Sir Joshua Reynolds was so anxious to guard against, that of copying peculiarities for general nature.

In the next sentence, the author affirms that " baldness in artificial pools is pleasing to the less accurate observer," and that such " delight in a broad expanse of light on the smooth surface reflecting a brilliant sky." I can only conceive this to hold true of those whose understandings would be satisfied with Mr. Repton's mode of arguing the subject; for I can scarcely conceive any one satisfied with baldness, or the mere reflection of a sky, when trees, broken banks, stones, and varied tints of soil, could be reflected in connection.

A few trees were cut down in an island at West Wycombe, to shew a better view of the house, which thus forms the example of *water being too much clothed!!!* A sketch is introduced with a slide, to shew this! while the author adds in a note, that " Mr. Brown has been accused of cutting down large old trees, and afterwards planting small ones on the same spot; the annexed plate may serve to vindicate the propriety of his advice." This and the drawing shew that the water is now *reclothed*, that the trees were cut down in order *to shew the house from the approach*, and of course that it is no example at all. Mr. Repton proposes to introduce a rocky brook which may be seen from the house, and a cascade, at Thoresby; because, as it is so near Derbyshire, (only thirty miles distant!!) " the violence done to nature by the introduction of rock scenery is allowable." The former attempt is unworthy of notice; on this last I have already made some remarks in the foregoing work, page 399. Here I have only to state another argument for this practice. " Having condemned," Mr. Repton observes, " the ill-judged interference of art in the disposition of the ground and water at THORESBY, it may perhaps be objected, that I now

recommend an artificial management not less extravagant; because I presume to introduce some appearance of rock scenery in a soil where no rock naturally exists; but" (mark the ingenuity of the argument) "the same objection might be made with equal propriety to the introduction of an artificial lake in a scene where no lake before existed!"—Such reasoning deserves no remark.

Arguments of a like nature are introduced to shew, that at Wentworth it is much easier "to imitate one large river, than several small lakes; especially as it is much easier to produce the appearance of continuity, than of such vast expanse as a lake requires." If a *vast expanse* be the characteristic of a lake, and *still continuity* that of a river, then this may be true; but while from nature we can place *breadth*, and *progress*, in the room of these epithets, we may reject the reasoning as no less false than the water at Wentworth is displeasing. I have elsewhere disapproved of the water at that residence; and on a future occasion shall give some views from it, and contrast them with others, shewing what it might have been, or may still be made, at much less expence than has been incurred in forming Mr. Repton's river. Mr. Repton, however, assumes it as a principle, that a "river is much easier to imitate than a lake;" so that we may thence bid adieu to all character in pieces of water formed by him or his followers. Is it extraordinary, that a person who thus overlooks the characters of nature should be bewildered on every occasion?

A ferry-boat is proposed for Holkham, which is here said to be of a "novel construction:" and in Hints and Sketches is called an "Invention." (By the way, Mr. Repton does not say an invention of his own.) The directions for using it, however, chiefly attract notice: "the surface or deck of this boat may be covered with gravel and cement, having a hand-rail on each side; thus it will in a manner become a moveable part of the gravel walk." This is a puerile conceit, which will please children. In a philosophical point of view, it tends to destroy the characteristic difference between

sailing and walking. A true disciple of nature, or an improver of good taste, will preserve the character of every circumstance of this kind with the utmost care, as tending to render scenery striking and interesting, to mark particular scenes, and to make lasting impressions on the memory. In every excursion among scenery (and indeed in every thing in life) they are the little contrasts of this kind that fix themselves upon the memory; and on future recollections such ideas, being always the first which are presented to the mind, lead to the whole chain of relative circumstances by a beautiful order and connection.

The boat alluded to, may be useful in crossing a narrow ferry, where mere utility is kept in view: but, in picturesque scenery, good taste will avoid such incongruities. It is of a piece with the rest of Mr. Repton's improvements, they tend to prettyness, which, like *puns* in conversation, may produce momentary amusement.

The following passage concludes the observations on water: it is to justify the retaining of two small ponds which are upwards of a hundred feet above the level of a serpentine river; all which are seen adjoining each other from the windows in the garden front of Harewood Hall. See Plate XVI. fig. 1.

"Where two pieces of water are at some distance from each other, and of such different levels that they cannot easily be made to unite in one sheet; if there be a sufficient supply to furnish a continual stream, or only an occasional redundance in winter, the most picturesque mode of uniting the two is by imitating a common process of nature in mountainous countries, where we often see the water in its progress from one lake to another dashing among broken fragments, or gently gliding over ledges of rock, which form the bottom of the channel: this may be accomplished at Harewood." In description, the impressions from which are often very different from those of real nature, this might have some plausibility; for certainly

water tumbling down a rocky steep, and uniting itself with a rapid stream, (as is further shewn in the drawing to illustrate this subject,) is very picturesque; but at Harewood, where not one drop of water flows from these upper ponds, proposed to be thus united with the lower river, except in great rains, or in time of high floods in winter, and where, in place of a rapid stream below, we have a serpentine river, as still and tame as that of Wentworth; how is it possible to make the application? Fortunately, the good taste of the proprietor triumphed over such reasoning; and, as I have formerly mentioned, and suggested by a plate, the upper ponds are to be planted, and the lower river changed into a lake.

Before I leave Mr. Repton's chapter on Water, I beg to refer the reader to his remarks on the same subject in "Hints and Sketches," Chap. IV. or to the "Enquiry into the changes of Taste," page 90 to 95; which contain some remarks, mostly taken from the Hints and Sketches, less erroneous than those in that work, but still true indications of Mr. Repton's manner of arguing and false practical taste. I must confess that I never read these passages without being astonished that any man could submit them to the world. If any reader does not feel similar sensations to mine in perusing them, it can only be accounted for, by reflecting that the effects of description on the mind are often very different from those subjects of real nature which gave rise to them; and that the generality of readers, and even judges, not having beheld the scenery alluded to, are not competent to separate the impressions, or judge of their difference. Had I not seen the water at Harewood, I should probably, from the same causes, have passed over the above quotation altogether, from not *strongly feeling* the misapplication of the reasoning.

From these extracts, either alone, or in connection with those pieces of water which have been formed under Mr. Repton's direction, the reader will perceive,

1st, That the author has no general or fixed principles upon which he proceeds.

2d, That his precepts, reasoning, and practice, are in direct violation of natural taste; and,

3d, As a consequence, that there is no absurdity in regard to effect which he may not produce, and no limits, or certain data, in regard to the expense, in which those who follow his directions may not be plunged.

Wood, the next, and by far the most important material, is described in Chapters IV. and V. Every reader must be aware, that almost the whole art of picturesque improvement consists in planting and the management of wood; and also, that this material, being highly profitable, affords an excellent opportunity of *blending utility with beauty*, and, of course, of rendering the most pleasing scenery of a residence highly profitable. When an author like Mr. Repton, of so much "experience," who has distributed his opinions in "nearly two hundred red books," who has "guided the taste and improved the scenery of his country" for nearly twenty years, and who now sits down to deliver the result of his experience, in order to "establish fixed principles in an art which he elevated to dignity," and in which he alone "united theory with practice," it may reasonably be supposed, that some very important particulars and excellent principles would be developed for the instruction of mankind. In no topic of rural affairs could instructions be so well received, because in no material of landscape is the proprietor of landed property so much interested, whether we regard the beauty or value of his estate. But Mr. Repton dismisses the subject of planting in less than ten pages, without the least hint of any general rule or principle, without a single new idea, or any practical directions which could convey instruction either to the *designer or the practical planter!!* The management of wood in Chap. V. contains little more than a long quotation from Whately, and a tedious description of a drive at Bulstrode. Nothing is said on either subject in "HINTS AND SKETCHES!" In the "Enquiry into the CHANGES OF TASTE, &c." a few hints are given, in pages 21, 2, 3 and 4; but they are either absolutely erroneous, or contradictory to experience, as the following paragraphs will shew.

" The last fashion of drive which Mr. Brown never made is an open drive, so wide that it never goes near the trees, and which admits such a current, of air, that *the front trees are generally the worst in the plantation;* add to this, that two narrow slips of planting will neither grow so well, nor be such effectual harbours for game, as deeper masses, especially when the game are liable to be disturbed by a drive between them. The belt may be useful as a screen; but, unless very deep, it should never be used as a drive, at least till after the trees have acquired their growth, when *a drive may be cut through the wood to advantage.*" The first passage in italics, is directly contrary to what takes place in experience; for in a wide drive, as well as on the outer margin of a wood or grove, the trees are uniformly the largest and most beautifully shaped. Every woodman knows, and any one may observe, that the second practice would inevitably produce *wind shakes,* as may be seen in all parts of the island, from the openings lately made in the *platoons* in Kensington Gardens, to the public roads cut through the Scotch fir woods in Perthshire.

" It is not only the line of the modern belt and drive that is objectionable, but also the manner in which the plantations are made, by the indiscriminate mixture of every kind of tree. In this system of planting, all variety is destroyed by the excess of variety, whether it is adopted in belts or clumps, as they have been technically called;" (This idea is taken from Mr. Price's Essays; but Mr. Repton, not knowing how to reduce it to practice, would thus proceed: he says,) " for example, if ten clumps be composed of ten different sorts of trees in each, they become so many things exactly similar; but if each clump consist of the same sort of trees" (that is, if one clump were of larches, another of Scotch firs, a third of beeches, a fourth of oaks, a fifth of chesnuts, a sixth of thorns, and so on) they become ten different things, of which one may hereafter furnish a group of oaks, another of elms, another of chesnuts or of thorns, &c." Clumps of mixed kinds are bad; but this mode would produce a distinctness and incongruity which would be incomparably worse. By such a practice, *unity, connection,* and variety, would be set at defiance.

"*It is difficult to lay down rules for any system of planting, which may ultimately be useful to this purpose;* time, neglect, and accident, will often produce unexpected beauties! The gardener or nurseryman makes his holes at equal distance, and generally in straight rows; he then fills the holes with plants, and carefully avoids putting two of the same sort near each other; nor is it very easy to make him ever put two or more trees into the same hole, or within a yard of each other: he considers them as cabbages or turnips, which will rob each other's growth, unless placed at equal distances;" page 23. The first sentence in italics I positively deny; and though I could refer to my own practice in several instances, both in extensive plantations and shrubberies, where the same general principles are followed, I rather refer to Fonthill, where this, as far as regards Mr. Repton's argument, is done in the most complete manner. I also refer to the practice of a planter whose writings, as they are well known, may probably be in the author's possession; I mean MARSHALL'S PLANTING AND RURAL ORNAMENT, third edition, minute 8th, pages 351 and 352. What can we learn from the rest of the sentence, but that things are in a bad state, and that there is no help for it—We must just continue to have our trees planted "as cabbages or turnips*." The above quotations are the only passages in the whole of Mr. Repton's writings which, in my opinion, have the least pretence to scientific directions for planting; and I am sure they are such as never were, nor ever will be, followed either with success, or effects agreeable to good taste and utility.

But I have only enumerated the general heads of Chapters IV. and V. of "Observations, &c.;" and therefore, in justice to Mr. Repton, I shall particularize them (in italics), and add under each head a remark or two.

* I have lately had an opportunity of examining the red book from which the author takes these remarks; which, if possible, more fully convinces me that he neither comprehends Mr. Price's ideas on the subject, nor understands the mode of putting any plan of this kind into practice.

"CHAPTER IV. OF PLANTING *for immediate and for future effect.*" This is to shew, that Mr. Brown planted clumps with a view of producing future groups; but, had this been the case, Mr. Brown would have studied connection and general effect in these clumps *relatively.* "*Clumps, groups, and masses.*" We are shewn what these are on a plate; the one of artificial scenery, the other natural; the last is of *ugly nature*, and contains two compact lumpish masses which every man of taste would avoid looking at, which no painter would copy, nor any picturesque improver wish to introduce into scenery; it is obviously an indirect attempt to shew that clumps are *not unnatural*, in the same way as the view of the Thames from Purley (given in "Observations,") is probably selected out of many other preferable views, to shew that even serpentine rivers sometimes exist in nature. "*New modes of planting wastes and commons.*" This is merely using deciduous trees and thorns in place of firs, and planting them large and irregularly; the difference of effect is shewn on two views, and the invention ascribed to Robert Marsham, Esq. of Stratton. "*The browsing line described; example,* MILTON ABBEY." This is merely the line formed by cattle cropping the lower branches of trees. "*Combination of masses to produce great woods; example,* COOMBE LODGE." A long desultory quotation from the red book of Coombe Lodge is introduced; the whole amounts to nothing, unless it be that a hill at that place could not be wholly covered with wood, which would have the best effect; but as the land cannot be spared, the spectator must be content to admire the beauties of intricacy in place of breadth, which "would prompt the necessity of planting the whole of the hill behind the house!!" page 56. "*Character and shape of ground to be studied.*" This is a pompous introduction of the well known quotation from Mason, where he directs "with sweeping train of forest, hill to hill unite," &c. "*Outline of new plantations.*" It is curious to observe how Mr. Repton gets over any difficult part of his subject; the mode of copying from his "red books" (or MS. in the possession of gentlemen who have been his employers) is admirably adapted to it. After observing that the outline of plantations in a naked country will appear hard and artificial for a few years, and that it is difficult to point out the precise

period when the trees may be thinned and groups "*brought forward*," he does not say how this may be avoided generally—he does not offer any general principles; but very ingeniously states, "so rich is the ground in which plantations were made at ASTON about ten years since, that this management has already been adopted with effect." What tendency have instances of this kind to establish fixed principles? which is the avowed object of Mr. Repton in his writings.

CHAPTER V. WOODS.—"*Wheatley's Remarks exemplified at Shardelloes.*" Here is first introduced a long quotation; and then some remarks made, which shew any thing but Mr. Repton's knowledge of the subject. In woods, he says, "pecuniary advantage and ornament are seldom strictly compatible with each other;" this, I beg leave to observe, is an affirmation directly contrary to truth; and, to prove it, I need only refer to Marshall's "Planting and Rural Ornament," or to the subject as treated in this Work, Part VIII. "*Wood and lawn are the natural features of Buckinghamshire;*" to appropriate these woods to the magnificence of Shardelloes, the author proposes some artificial objects, and points out a knoll where he clears away some wood and places a pavilion; all which is illustrated by a plate. A much nobler way of appropriation, or harmonizing a residence with the country, would have been to have had no pavilion; and then all Buckinghamshire might apparently have belonged to Shardelloes. The introduction of this pavilion brings to my recollection a plan of Mr. Repton's at Harewood; which was, to introduce a building in the middle of a solemn and venerable oak wood; it was to be placed over the drive, in such a way as that carriages might pass under it—the intention was to produce more cheerfulness and variety!!—This is characteristic of Mr. Repton's manner of improvement. "*A drive at Bulstrode traced, with reasons for its course*"—These reasons are few, and merely refer to the *particular* scenery through which *it* passes. "*Further examples from* HEATHFIELD PARK." This is equally tiresome, and void of instruction. *A belt;* this is said to be preferred by modern improvers, from a love

of extent more than of beauty." "*On thinning woods.*" The author first shews at some length, that he does not understand the mode in which beauty and profit can be united; and then observes, as an apology for any thing further, that "to give such general rules for thinning woods as might be understood by those who have never attentively and scientifically considered the subject, would be like attempting to direct a man who had never used a pencil to imitate the groups of a Claude or a Poussin." It requires little penetration to discover the reason why Mr. Repton has recourse to this kind of apology; nor need the scientific reader be told, after giving these quotations, that their author does not *understand* even the *nomenclature* of trees, much less their *characteristical distinctions, properties, culture, and uses.* No wonder then that he afterwards states, "On this head I have frequently found my instructions opposed, and my reasons unintelligible."

Leaving groups, opening a lawn in great woods; example, CASHIOBURY. The author has "occasionally been required to fell great quantities of timber, from other motives than merely to improve the landscape;" in some instances it "produced fortunate improvements,"—as at Cashiobury.

We have now examined the author's ideas on this important subject; and certainly they justify me in affirming, that *he is uninformed in every thing relating to planting.* Whether we compare what he has said with *truth*, or with what he might have advanced had he been well acquainted with trees, it is alike evident that he is not guided by *fixed principles* himself, and of course when writing for the benefit of others he must frequently err; for in every art the practical experience of men ignorant of principles and particulars, and incapable of reasoning from nature and practice, can never tend to improvement. Such persons may practise all their lives without ever discovering a single useful fact. To be able to profit by observation or experience in trees, a previous knowledge of their physio-

logy, culture, and nomenclature, are absolutely necessary. But of all these this author knows little or nothing.

In every art the want of fixed principles leads to arbitrary practice; and we have only to consider for a moment the powers of trees, in regard to the beauty of the country, the profits of individual proprietors, and what is a more magnificent concern, the naval character of the British nation, to foreknow the dangerous and ruinous consequences of following such directions as those which have been laid down by Mr. Repton.

Utility and convenience, it was observed, form the second part of the art of forming residences. It may be included under the farm, kitchen garden, mansion, and the conveniencies peculiar to country seats: on all these this author has said little, and what he has said is at variance with good taste. In Chapter VII. it is roundly stated, that an ornamented farm is a contradiction in terms. But that this is not the case any one may be convinced, who will allow that a hedge mingled with woodbine, briar, honeysuckles, hazel, &c. or a wall varied by ivy or scattered bushes, is more beautiful than a mere row of thorns, or a naked line of stones. In numerous parts of the foregoing work, I have shewn how beauty and use may be united, both in what regards agriculture and the formation of farms. I only add here, that those who have seen the farm at Milburn laying out by the proprietor, or have witnessed the order, beauty, and economy, displayed in that at Lesbury, near Alnwick*, will certainly reject the dogmatic decision of this author. Are none to enjoy beauty but those who can purchase an extensive country and throw it into a park?

On kitchen gardens nothing is advanced. The hints on hot houses and

* In addition to several farms laid out by me, and referred to in former parts of the work, I might also add those at Kingswood Lodge and Egham Park, chiefly of pasture: though I am sorry that I cannot approve of some recent additions made to the former residence, by the proprietor; I mean the kitchen garden.

offices are few, and undeserving of attention. I therefore pass them over, as well as all the other parts of Mr. Repton's writings. It is true, the want of utility and convenience are serious defects in a country residence; but as they are soon felt by all proprietors, they speedily effect their own remedy.

All the other opinions and directions in this author's works, as well as his practice, though alike unfounded on fixed general principles, are far less dangerous than his directions respecting WOOD and WATER. As already observed, the management of them comprehends almost every thing in the improvement of landscape, whether in regard to present expenses, future effects, future profits, or national character. Hence I have been led to make these remarks upon opinions and directions which ever since Mr. Brown's time *have* retarded the progress of taste, materially injured* the value of property, and sometimes ruined individuals†; and which, sanctioned by time, and propagated by an artist of long establishment and unquestioned pre-eminence, may still continue to produce the same bad effects, unless those effects are pointed out, and a practice founded on rational principles proposed in their room.

* See Kent's Hints on Landed Property, page 161, edit. 1799.

† See Cowper's Task.

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☞ *The numeral Letters refer to the Second Volume.*

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ERRATA.

CONTENTS. Page 1 of Contents, for PART I. read BOOK I.
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PART IV. CHAP. III. of Contents, 9th line from the bottom, for *creation* read *action*.
Page 13, for *Kowdry* read *Cowdroy*.
—— 13 for *Penchurch* read *Kentchurch*.
—— 128 line 22 for *above* read *alone*.
—— 232 —— 6 — OF THE CULTIVATION read OF CULTIVATION.
—— 305 —— 18 — *but hoar* read *but where hoar*.
—— 324 —— 15 — *absinthides* read *absinthoides*.
—— 327 —— 20 dele *on reading*.
—— 377 (vol. ii.) 20 for *pecud-acorus* read *pseud-acorus*.
—— 434 7th line from the bottom, for *Ashton* read *Woolton*.
—— 473 line 11 for *alles* read *alba*.
—— 647 lines 4, 5, & 9, for Plates XXIII. and XXIV. read Plates XXII. and XXIII.
—— 648 —— 6 for Plate XXX. read Plate XXXI.
—— 675 —— 28 (Note) for *affected* read *effected*.

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☞ *In the ensuing Spring will be published, as the Sequel to Part III. Book I. written by the same Author, "The Theory of Taste, chiefly in regard to the Material World, with an Application of its Principles to the Internal Arrangement, Characters, and Finishing of Apartments, and the different Kinds of Furniture, Furnishing, Decorations, &c."*

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